

Computer Power Supply

BRAIN



Products Guide



LIMBS

Control & Mechanism System
Power Supply - LIMBS

Total Cost of Ownership



Nipron designs high-value-added / service added products based on considering "Total Cost of Ownership (TCO)".

Total Cost of Ownership (TCO) here means total expense which latest owner, (end user) bears not only initial cost, needed for early introduction but also running cost included cost for maintenance.

Therefore, Nipron products are available for not only device makers / set-up makers but also for end-users / final users who should take advantages by selecting Nipron products because our design policy has always considered as TCO for end-user / final user.



Nipron's policy

Nipron sticks to the principle "Nipron guards IT" as the core concept of business and product development.

Power Supply plays the same role as a human's heart, and is never allowed to go bust earlier than any other devices under whatever the circumstances.

Nipron bases on our policy "Power Supply (heart) must never break down" and "Must continuously provide pure currents to body (blood) throughout the operation life of equipment", and continuously provide market with power supplies which never go bust and never come to a stop so that we stick to the quality and design improvement and seek "Safe and Secured Power Supply Manufacturing."

Products Lineup

- Computer power supply: Desktop PC power supply, Rack Mount power supply
- Medical Standard certified: ATX/EPS PSU, Fanless ATX PSU, Redundant PSU
- Non-stop power supply: SFX PSU, AT PSU, High-power, High-efficient (MINAMOTTO-SAN series with full options)
- 1U/2U PSU
- Control/Mechanism System power supply: AC-DC power supply, 24V output +ATX PSU, Nonstop power supply
- Renewable Energy: Green Power PSU, Bidirectional GBM
- Single output/Multi output PSU: Single output (Medical Standard certified, Ni-MH Battery package), Multi output
- Non-insulated booster type PSU
- PV Maximizer, Charging/discharging converter Neo eXpander

Quality and Environment

In order to keep and uplift the products quality, Nipron puts products developing, marketing, and customer services in writing, as a quality manual that is based on ISO9001. Nipron's quality policy is "Set 'Protection' as the base of manufacturing and management system of manufacturing, and convert them into tangible forms radically.", and giving Nipron's full attention to protect IT. IT here means "Information Technology" and also "partners-customers", by pronouncing "I", and "T" in Japanese. Also, Nipron shows our quality assurance system, quality control system, factory floor and field based on this policy, and receiving good reputation from customers.

"Protection" from environment aspect, Nipron sets goal "protect global environment" and established an Environmental Management Systems, which complies with ISO14001 since Feb 9th 2004, in order to make an improvement for an effect on the environment continuously.



Manufacturing

Nipron places importance of "Made in Japan" manufacturing. Nipron believes that manufacturing in Japan with flexible support upon customer's requests in wide range of models, and in various quantities fulfills customers' satisfactions. We are continuously improving for reaching to "No.1" in quality and delivery time. One of the persistence of the high quality is that Nipron's own system, "DigiCell", is based on the policy of "No record, No manufacturing of defective product, and taking in defected items to the line", we consolidate the quality control system with this system. Also we consider that our mission is to contribute to Japanese society with persisting manufacturing in Japan.



DigiCell

Nipron Digital Cell-line System

Main feature of DigiCell

- Prevention of cutting corners
- Prevention of being shorten the number of components
- Centralized system for job order
- Fully-automatized process flow record retention (workers, work time, and facility NO., etc)
- Prevention of failure products in process with data managements

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output (Max. / Peak / Min.) | | | | | | | | | | | | | | Function | | | | | | | | | | |
|-----------------------|----------------|-----------------------------------|---------------------|-----------------------------|------------|------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|---------------|---------|-----|-----|-----|---------|----------|----------|------------|------|---|
| | | | | Output Power (Total) | +3.3V | +5V | +12V1 | +12V2 | +12V3 | +12V4 | +12V5 | +12V6 | +12V7 | -5V | -12V | +5VSB | +24V/+48V | DC start | RS 232C | USB | TTL | PFC | Silence | 5VSB FAN | TSFC FAN | Connection | RoHS | |
| HPCSA-1500P | Two-generation | ATX, EPS 150×85×200 | 100-240V AC | 1200W 1500W | 25A 30A | 25A 30A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 24A 32A | 1A 1.2A | 3A 4A | — | — | — | — | ● | ● | — | — | ● | ● | |
| HPCSA-1000P | Two-generation | ATX, EPS 150×85×190 | 100-240V AC | 822W 1000W | 25A 30A | 25A 30A | 18A 25A | 18A 25A | 18A 25A | 18A 25A | — | — | — | — | — | 0.4A 0.6A | 3A 4A | — | — | — | — | ● | ● | — | ● | ● | | |
| HPCSA-700P | Two-generation | ATX, EPS 150×85×150 | 100-240V AC | 600W 700W | 16A 20A | 16A 20A | 18A 25A | 18A 25A | 18A 25A | — | — | — | — | — | — | 1A 1A | 2A 3A | — | — | — | — | ● | ● | — | — | ● | ● | |
| HPCSA-570P | Two-generation | ATX 150×86×140 | 100-240V AC | 400W 570W | 20A 30A | 24A 30A | 30A 35A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 2A 3A | — | — | — | — | ● | ● | — | — | ● | ● | |
| HPCSA-570P -X2S-24V | Two-generation | ATX+24V 150×86×175 | 100-240V AC | 400W 570W | 20A 30A | 24A 30A | 25A 35A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 2A 2.5A | 8.3A 12.5A | — | — | — | — | ● | ● | — | — | ● | ● |
| HPCSA-570P -X2S-48V | Two-generation | ATX+48V 150×86×175 | 100-240V AC | 305W 570W | 20A 30A | 24A 30A | 16.5A 35A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 2A 3A | 4A 4A | — | — | — | — | ● | ● | — | — | ● | ● |
| ePCSA-500P | Two-generation | ATX 150×86×140 | 100-240V AC | 350W 500W | 20A 30A | 22A 33A | 22A 30A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 2A 2.5A | — | — | — | — | ● | ● | — | ● | ● | | |
| mPCSA-500P | Two-generation | ATX 150×86×140 | 100-240V AC | 301W 500W | 20A 30A | 22A 33A | 22A 30A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 2A 2.5A | — | — | — | — | ● | ● | — | ● | ● | | |
| PCSA-370P | Two-generation | ATX 150×86×140 | 100-240V AC | 280W 370W | 17A 20A | 21A 25A | 18A 18A | — | — | — | — | — | — | — | — | 0.5A 0.5A | 1.5A 2.5A | — | — | — | — | ● | ● | — | — | ● | ● | |

* Except for projections

| Number of Output Connectors* | | | | | | | | | | | | | Safety Standard | | | | | Battery Package Available | | | Series Name / Picture | Page |
|------------------------------|------------|------------|----|-----|----------|----------|------------|--------------|-----|-------|-----|-------------------------------------|--|-----------|-----------------|-------------------------|------|---------------------------|-----------|---------------------|-----------------------|------|
| Main 20+4pin | Main 24pin | Main 20pin | AT | AUX | 12V 4pin | 12V 8pin | PCI-E 6pin | PCI-E 6+2pin | HDD | S-ATA | FDD | UL | CSA (c-UL) | EN | CCC | Other | Lead | NI-MH | Capacitor | | | |
| — | ×1 | ×1 | — | — | ×6 | ×12 | ×6 | ×10 | ×10 | ×14 | ×2 | UL62368-1 | CSA C22.2 NO.62368-1 | — | — | CE Marking (IEC62368-1) | — | — | — | HPCSA-1500P | P29 | |
| — | ×1 | ×1 | — | — | ×3 | ×6 | ×3 | ×2 | ×10 | ×14 | ×2 | UL60950-1 | CSA C22.2 NO.60950-1 | — | CCC | CE Marking (IEC62368-1) | — | — | — | HPCSA-1000P | P29 | |
| — | ×1 | ×1 | — | — | ×2 | ×4 | ×2 | ×1 | ×10 | ×14 | ×2 | UL60950-1 | CSA C22.2 NO.60950-1 | — | — | CE Marking (IEC62368-1) | — | — | — | HPCSA-700P | P30 | |
| — | ×1 | ×1 | — | — | ×2 | ×4 | ×2 | ×1 | ×5 | ×7 | ×1 | UL60950-1 | CSA C22.2 NO.60950-1 | — | CCC | CE Marking (IEC62368-1) | — | — | — | HPCSA-570P | P31 | |
| — | ×1 | ×1 | — | — | ×2 | ×4 | ×2 | ×1 | ×5 | ×7 | ×1 | UL60950-1 | CSA C22.2 NO.60950-1 | — | CCC | CE Marking (IEC62368-1) | — | — | — | HPCSA-570P -X2S-24V | P31 | |
| — | ×1 | ×1 | — | — | ×2 | ×4 | ×2 | ×1 | ×5 | ×7 | ×1 | UL60950-1 | CSA C22.2 NO.60950-1 | — | CCC | CE Marking (IEC62368-1) | — | — | — | HPCSA-570P -X2S-48V | P31 | |
| — | ×1 | ×1 | — | — | ×1 | ×2 | ×1 | — | ×5 | ×7 | ×1 | UL60950-1 | CSA C22.2 NO.60950-1 | EN62368-1 | CCC (Only -X2C) | CE Marking (IEC62368-1) | — | — | — | ePCSA-500P | P32 | |
| — | ×1 | ×1 | — | — | ×1 | ×2 | ×1 | — | ×5 | ×7 | ×1 | UL60950-1 UL60601-1 (Ed.1, Ed.3) | CSA C22.2 NO.60950-1 CSA C22.2 NO.601.1(Ed.1) NO.60601-1(Ed.3) | — | CCC | CE Marking (IEC62368-1) | — | — | — | mPCSA-500P | P32 | |
| — | — | ×1 | — | — | ×1 | — | — | — | ×4 | ×2 | ×1 | UL60950-1 | CSA C22.2 NO.60950-1 | — | CCC | CE Marking (IEC62368-1) | — | — | — | PCSA-370P | P33 | |
| — | ×1 | — | — | — | ×1 | — | — | — | ×4 | ×2 | ×1 | — | — | — | — | — | — | — | — | — | — | |
| — | ×1 | — | — | — | — | ×1 | — | — | ×4 | ×2 | ×1 | — | — | — | — | — | — | — | — | — | — | |

* The maximum number of each connector when detachable output harnesses are connected. Refer to P.49 - P.52.

■Description of Icons

| Icon | Name | Description |
|------|---|--|
| | Nonstop power supply | Uninterruptible power supply with battery pack which keeps supplying power to the load stably, which means that it does not affect any change on DC output at all, during the instantaneous blackout or completed blackout or even when the AC input voltage is getting lower by connecting battery pack. |
| | AC+DC dual input power supply | This type of power supply can be used with commercial AC input and external DC input turned on simultaneously. The power is supplied from the AC side when AC input is within the normal range, and it is supplied from the DC side when the AC input decreases. The startup with DC input and operation with DC input only are also possible. |
| | All-purpose computer power supply (two-generation power supply) | All-purpose computer power supply with long life expectancy made specifically for computers that go through frequent model changes so it can be used over two generations or more. |
| | All-purpose redundant computer power supply (two-generation power supply) | This power supply allows for high availability. With the N + 1 redundant operation, it enables to operate continuously with the remaining power supply even if one power supply breaks. |

| Icons for Function | | |
|--------------------|--|--|
| | Startup with DC Input only | |
| | Control with RS232C signal (AC_FAIL, BATT_LOW, SHUT_DOWN) is possible. | |
| | Control with USB signal (AC_FAIL, BATT_LOW, SHUT_DOWN) is possible. | |
| | Fan rotates at low speed at standby (remote OFF) to reduce heat from +5VSB output. | |
| | | |
| | | |

| Icons for Battery Package | |
|---------------------------|------------------------------|
| | 5-inch bay fixed type |
| | 3.5-inch bay fixed type |
| | 5-inch bay removable type |
| | 5-inch bay 2-unit fixed type |

●FZP series 40W Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) 100 - 240 VAC | Output current (Max. / Peak) | | | | Safety Standard | | | | | Page |
|-----------------------|------------------------|-------------------------------------|---------------------|---|--------------------------------|------------|------------|--------------|-----------------|-------------------------|----|-----|---------------------------------|------|
| | | | | | Single output | | | | UL | CSA (c-UL) | EN | CCC | Other | |
| | | | | | +5V | +12V | +15V | +24V | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 50×26×87.5 | 100 - 240V AC | 30W 40W | 6A 8A | — | — | — | UL62368-1 | CSA C22.2 NO.62368-1 | EN | CCC | UKCA/CE Marking (IEC62368-1) | P53 |
| | | | | 39.6W 60W | — | 3.3A 5A | — | — | | | | | | |
| | | | | 39W 60W | — | — | 2.6A 4A | — | | | | | | |
| | | | | 38.4W 60W | — | — | — | 1.6A 2.5A | | | | | | |

* Except for projections

●OZP series 120W–350W Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) 100 - 240 VAC | Output current (Max. / Peak) | | | | | | | | Safety Standard | | | | | Page | |
|-----------------------|---|--|--|---|--------------------------------|------------|----------------|----------------|-----------------------|---------------|-----------------------------|-----------|-------------------------|-------------------------|-------------------------|-------|----------------------------|----------------------------|-----|
| | | | | | Single output | | | | | | | | UL | CSA (c-UL) | EN | CCC | Other | | |
| | | | | | +3.3V | +5V | +12V | +15V | +24V | +30V | +36V | +48V | | | | | | | |
| | AC-DC Single output NSP (12V/24V) | W/O Chassis and Cover 73×35×180 W/ Chassis and Cover 83×45×210 | 100 - 240V AC | 120W 180W | — | — | 10A 15A | — | — | — | — | — | — | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | P54 |
| | | | | 120W 216W | — | — | — | — | 5A 9A | — | — | | | | | | | | |
| | AC-DC Single output NSP (24V) | W/O Chassis and Cover 73×40×222 W/ Chassis and Cover 83×51×252 | 100 - 240V AC | 168W 300W | — | — | — | — | 7A 12.5A | — | — | — | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | P54 | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | AC-DC Single output Parallel operation Low standby power consumption | W/O Chassis and Cover 73×40×222 W/ Chassis and Cover 83×51×252 | 100 - 240V AC | 132W 198W | 40A 60A | — | — | — | — | — | — | — | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | CE Marking (IEC62368-1) | P55 |
| | | | | 200W 300W | — | 40A 60A | — | — | — | — | — | | | | | | | | |
| | | | | 200.4W 400.8W | — | — | 16.7A 33.4A | — | — | — | — | | | | | | | | |
| | | | | 201W 400.5W | — | — | — | 13.4A 26.7A | — | — | — | | | | | | | | |
| | | | | 201.6W 400.8W | — | — | — | — | 8.4A 16.7A | — | — | | | | | | | | |
| | | | | 201.6W 403.2W | — | — | — | — | — | 6.7A 13.4A | 5.6A ^{*1} 11.2A | | | | | | | | |
| | | | | 201.6W 403.2W | — | — | — | — | — | — | 4.2A 8.4A | | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 73×41×222 | 100 - 240V AC | 201.6W/240W 400.8W/600W | — | — | — | — | 8.4A/10A 16.7A/25A | — | — | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | CE Marking (IEC62368-1) | P55 | |
| | | | | 201.6W/240W 403.2W/600W | — | — | — | — | — | — | 4.2A/5A 8.4A/12.5A | | | | | | | | |
| | | | | — | — | — | — | — | — | — | — | | | | | | | | |
| | AC-DC Single output Parallel operation Low standby power consumption | W/O Chassis and Cover 95×47×222 W/ Chassis and Cover 107×57×252 | 100 - 240V AC 40 - 370V DC input model is also lined-up | 300W 504W | — | — | 25A 42A | — | — | — | — | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC (Only 36V type) | Other | CE Marking (IEC62368-1) | P56 | |
| | | | | 300W 600W | — | — | — | 20A 40A | — | — | | | | | | | | | |
| | | | | 350.4W 600W | — | — | — | — | 14.6A 25A | — | — | | | | | | | | |
| | | | | 351W 600W | — | — | — | — | — | 11.7A 20A | — | | | | | | | | |
| | | | | 352.8W 601W | — | — | — | — | — | — | 9.8A 16.7A | | | | | | | | |
| | | | | 350.4W 600W | — | — | — | — | — | — | 7.3A 12.5A | | | | | | | | |

* Except for projections

*1 Scheduled to certify safety standards

■ Description of Icons

| Icon | Description | Icon | Description |
|------|--|------|---|
| | AC - DC switching power supply | | PSU back-up functionality available at AC fail connecting to battery package. |
| | DC - DC switching power supply | | Parallel operation available with embedded current balancing circuit. |
| | Single output power supply. The kind of SB (stand-by) output with like 24V+12VSB output is also single output. | | Energy-saving design with less power consumption in a standby mode. |
| | Multi-output power supply, -more than 2 kinds output, such as 12V+24V, and ATX. Models which has dual-output (Ex: 24V+24V) are counted as "Multi-output" model even its output power is single-output. | | |

●UZP series 150W-600W Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | | | | | | Safety Standard | | | | | Page | |
|-----------------------|---------------------|---|---------------------|--|------------------------------|---------------|---------------|-------------------------|-----------------------------|--------------|----------------|-----------------|------------|----------------------|-----|-------|------------------------------|-----|
| | | | | | Single output | | | | | | | UL | CSA (c-UL) | EN | CCC | Other | | |
| | | | | | +12V | +18V | +24V | +30V | +36V | +48V | +12VSB | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 62×27×155 W/ Chassis and Cover 72×38.8×185 | 100 - 240V AC | 100.8W ¹ 200.4W | 8.4A 16.7A | - | - | - | - | - | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | CE Marking (IEC62368-1) | P57 |
| | | | | 120W ² 200.4W | 10A | - | - | - | - | - | - | | | | | | | |
| | | | | 120W 201.6W | - | - | 5A 8.74A | - | - | - | - | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 75×35×160 W/ Chassis and Cover 83.8×45×188 | 100 - 240V AC | 150W 400.8W | 12.5A 33.4A | - | - | - | - | - | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | CE Marking (IEC62368-1) | P57 |
| | | | | 151.2W 401.4W | - | 8.4A 22.3A | - | - | - | - | - | | | | | | | |
| | | | | 151.2W 400.8W | - | - | 6.3A 16.7A | - | - | - | - | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 75×36×160 W/ Chassis and Cover 83.8×45×188 | 100 - 240V AC | 180W 400.8W | 15A 33.4A | - | - | - | - | - | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | CE Marking (IEC62368-1) | P58 |
| | | | | 180W 401.4W | - | 10A 22.3A | - | - | - | - | - | | | | | | | |
| | | | | 220.8W 400.8W | - | - | 9.2A 16.7A | - | - | - | - | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 84×45×180 W/ Chassis and Cover 97.2×57.5×212 | 100 - 240V AC | 320.4W 504W | 26.7A 42A | - | - | - | - | - | - | - | UL62368-1 | CSA C22.2 NO.62368-1 | EN | CCC | UKCA/CE Marking (IEC62368-1) | P58 |
| | | | | 403.2W 600W | - | - | 16.8A 25A | - | - | - | - | | | | | | | |
| | | | | 403.2W 601.2W | - | - | - | 11.2A 16.7A | - | - | - | | | | | | | |
| | AC-DC Single output | W/O Chassis and Cover 84×45×180 W/ Chassis and Cover 97.2×57.5×212 | 200 - 240V AC | 403.2W 1200W | - | - | 16.8A 50A | - | - | - | - | - | UL62368-1 | CSA C22.2 NO.62368-1 | EN | CCC | UKCA/CE Marking (IEC62368-1) | P59 |
| | | | | 402W 1200W | - | - | - | 13.4A 40A | - | - | - | | | | | | | |
| | | | | 403.2W 1202.4W | - | - | - | - | 11.2A 33.4A | - | - | | | | | | | |
| | AC-DC Single output | W/ Chassis 127×44×228.6 W/ Chassis and Cover 127×52×233.6 | 100 - 240V AC | 600W 1200W | - | - | 25A 50A | - | - | - | 0.42A 0.42A | - | UL62368-1 | CSA C22.2 NO.62368-1 | EN | CCC | CE Marking (IEC62368-1) | P59 |
| | | | | 600W 1200W | - | - | - | 20A ³ 40A | - | - | 0.42A 0.42A | | | | | | | |
| | | | | 601.2W 1202.4W | - | - | - | - | 16.7A ³ 33.4A | - | 0.42A 0.42A | | | | | | | |
| | AC-DC Single output | W/ Chassis 127×44×228.6 W/ Chassis and Cover 127×52×233.6 | 100 - 240V AC | 600W 1200W | - | - | - | - | - | 12.5A 25A | 0.42A 0.42A | - | UL62368-1 | CSA C22.2 NO.62368-1 | EN | CCC | CE Marking (IEC62368-1) | P59 |
| | | | | 600W 1200W | - | - | - | - | - | - | 0.42A 0.42A | | | | | | | |
| | | | | 600W 1200W | - | - | - | - | - | - | 0.42A 0.42A | | | | | | | |

* Except for projections *1 UZP*-120**-J0L, JB0 *2 UZP*-120**-JBH *3 30V/36V types are scheduled to certify safety standards

●OZM series 15W-30W Open frame AC-DC multi output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | | | | | Safety Standard | | | | | Page |
|-----------------------|--------------------|---|---------------------|--|------------------------------|---------|---------|------------|-----------|------------|-----------------|----------------------|----|-----|-------|------|
| | | | | | Multi output | | | | | | UL | CSA (c-UL) | EN | CCC | Other | |
| | | | | | +3.3V | +5V | +12V | -12V | +15V | -15V | | | | | | |
| | AC-DC Multi output | W/O Chassis and Cover 50×28×127 W/ Chassis and Cover 57×38×147 | 100 - 240V AC | 13.8W | 2A/3A | - | 0.4A/1A | 0.2A/0.3A | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | P65 |
| | | | | 14.1W | 2A/3A | - | - | - | 0.3A/0.8A | 0.2A/0.3A | | | | | | |
| | | | | 17.2W | - | 2A/3A | 0.4A/1A | 0.2A/0.3A | - | - | | | | | | |
| | AC-DC Multi output | W/O Chassis and Cover 65×31.5×140 W/ Chassis and Cover 72×38×160 | 100 - 240V AC | 29.1W | 3A/4.5A | - | 1.3A/2A | 0.3A/0.45A | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | P65 |
| | | | | 29.4W | 3A/4.5A | - | - | - | 1A/1.6A | 0.3A/0.45A | | | | | | |
| | | | | 34.2W | - | 3A/4.5A | 1.3A/2A | 0.3A/0.45A | - | - | | | | | | |
| | AC-DC Multi output | W/O Chassis and Cover 55×28×133 W/ Chassis and Cover 65×36×163 | 100 - 240V AC | 36W | - | - | 2.4A/3A | 0.6A/1A | - | - | UL60950-1 | CSA C22.2 NO.60950-1 | EN | CCC | Other | P65 |
| | | | | 36W | - | - | - | - | 1.8A/2.4A | 0.6A/1A | | | | | | |
| | | | | 36W | - | - | - | - | - | - | | | | | | |

* Except for projections

■ Description of Icons

| Icon | Description | Icon | Description |
|------|--|------|---|
| | AC - DC switching power supply | | PSU back-up functionality available at AC fail connecting to battery package. |
| | DC - DC switching power supply | | Parallel operation available with embedded current balancing circuit. |
| | Single output power supply. The kind of SB (stand-by) output with like 24V+12VSB output is also single output. | | Energy-saving design with less power consumption in a standby mode. |
| | Multi-output power supply, -more than 2 kinds output, such as 12V+24V, and ATX. Models which has dual-output (Ex: 24V+24V) are counted as "Multi-output" model even its output power is single-output. | | |

●GPSA series 360W–5000W Unit type AC-DC switching power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) AC100V/AC200V | Output current (Max. / Peak) | | | | | | Safety Standard | | | | | Page |
|-----------------------|--|-----------------------------------|------------------------------|--|------------------------------|--------------------|----------------------|------------------|--------------|--------------|-----------------|-------------------------|-----|---------------------------------|-------|------|
| | | | | | Single output | | | | | | UL | CSA (c-UL) | EN | CCC | Other | |
| | | | | | +12V | +24V | +36V | +48V | +96V | +12VSB | | | | | | |
| GPSA-360 | AC-DC Single output NSP(24V) | 41×128×230 | 100 - 240V AC | 360W 480W | 30A | — | — | — | — | 0.3A 0.3A | UL60950-1 | CSA C22.2 NO.60950-1 | | | | P66 |
| | | | | 360W 499.2W/600W | — | 15A 20.8A/25A | — | — | — | 0.3A 0.3A | | | | | | |
| GPSA-600 | AC-DC Single output NSP(24V) Parallel operation | 61×128×240 | 100 - 240V AC | 600W 960W/1200W | 50A | — | — | — | — | 0.5A 0.5A | UL60950-1 | CSA C22.2 NO.60950-1 | CCC | CE Marking (IEC62368-1) | | P66 |
| | | | | 600W 1200W/1440W | — | 25A 50A/60A | — | — | — | 0.5A 0.5A | | | | | | |
| | | | | 601.2W 1198.8W/1440W | — | — | 16.7A 33.3A/40A | — | — | 0.5A 0.5A | | | | | | |
| | | | | 600W 1200W/1440W | — | — | — | 12.5A 25A/30A | — | 0.5A 0.5A | | | | | | |
| GPSA-1000 | AC-DC Single output NSP(24V) Parallel operation | 61×128×240 | 115 - 240V AC | 1008W 1320W/2016W | — | 42A 55A/84A | — | — | — | 0.5A 0.5A | UL60950-1 | CSA C22.2 NO.60950-1 | CCC | CE Marking (IEC62368-1) | | P66 |
| | | | | 1008W 1320W/2016W | — | — | 21A 27.5A/42A | — | — | 0.5A 0.5A | | | | | | |
| GPSA-1500 | AC-DC Single output Parallel operation | 82×128×250 | 100 - 240V AC | 1056W/1512W 1320W/2040W | — | 44A/63A 55A/85A | — | — | — | 0.5A 0.5A | UL60950-1 | CSA C22.2 NO.60950-1 | | UKCA/CE Marking (IEC62368-1) | | P67 |
| | | | | 1104W/1632W 1320W/2112W | — | — | 23A/34A 27.5A/44A | — | — | 0.5A 0.5A | | | | | | |
| | | | | — | — | — | — | — | — | — | | | | | | |
| GPSA-5000 | AC-DC Single output Parallel operation | 198×125×314 | Three-phase 200 - 240V AC | 4800W 6000W | — | — | — | 100A 125A | — | 0.5A 0.5A | UL62368-1 | CSA C22.2 NO.62368-1 | | CE Marking (IEC62368-1) | | P67 |
| | | | | 4992W 6000W | — | — | — | — | 52A 62.5A | 0.5A 0.5A | | | | | | |

* Except for projections

●UDP series 120W–240W DIN-rail compatible AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | Safety Standard | | | | | Page |
|-----------------------|------------------------|-----------------------------------|--|--|------------------------------|------------|--------------------|--|----|-----|----------------------------|------|
| | | | | | Single output | | UL | CSA (c-UL) | EN | CCC | Other | |
| | | | | | +24V | | | | | | | |
| UDP-120 | AC-DC Single output | 35×124×117.5 | 100 - 240V AC | 120W 201.6W/300W | 5A | 8.4A/12.5A | | | | | | P69 |
| | | | | | | | | | | | | |
| UDP-180 | AC-DC Single output | 35×124×117.5 | 100 - 240V AC | 180W 201.6W/300W | 7.5A | 8.4A/12.5A | | | | | | P69 |
| | | | | | | | | | | | | |
| UDP-240 | AC-DC Single output | 41×124×117.5 | 100 - 240V AC <small>Lineup of the model supports 120-400V DC</small> | 240W 400.8W | 10A | 16.7A | UL62368-1 UL508 | CSA C22.2 NO.62368-1 CSA C22.2 NO.107.1 | | | CE Marking (IEC62368-1) | P70 |
| | | | | | | | | | | | | |

* Except for projections

■ Description of Icons

| Icon | Description | Icon | Description |
|------|--|------|---|
| | AC - DC switching power supply | | PSU back-up functionality available at AC fail connecting to battery package. |
| | DC - DC switching power supply | | Parallel operation available with embedded current balancing circuit. |
| | Single output power supply. The kind of SB (stand-by) output with like 24V+12VSB output is also single output. | | Energy-saving design with less power consumption in a standby mode. |
| | Multi-output power supply, -more than 2 kinds output, such as 12V+24V, and ATX. Models which has dual-output (Ex: 24V+24V) are counted as "Multi-output" model even its output power is single-output. | | |

Single Output Power Supply

●mFZP series 40W-75W IEC60601-1 certified Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | | | Safety Standard | | | | | Page | |
|--|------------------------|-------------------------------------|---------------------|--|------------------------------|----------------|------------|-------|---------------------------------|---|---|-----|---|---|-----|
| | | | | | Single output | | | | UL | CSA (c-UL) | EN | CCC | Other | | |
| | | | | | +5V | +12V | +15V | +24V | | | | | | | |
| mFZP-040 <small>Under development</small> | AC-DC Single output | W/O Chassis and Cover 50×26×87.5 | 100 - 240V AC | 30W | 6A | - | - | - | - | UL62368-1 UL60601-1 (Ed.3.1) | CSA C22.2 NO.62368-1 CSA C22.2 NO.60601-1 (Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P60 |
| | | | | 40W | 8A | - | - | - | | | | | | | |
| | | | | 39.6W 60W | - | 3.3A | - | - | | | | | | | |
| | | | | 39W 60W | - | - | 2.6A 4A | - | | | | | | | |
| mFZP-075 | AC-DC Single output | W/O Chassis and Cover 55×28×133 | 100 - 240V AC | 50W | 10A | - | - | - | UL62368-1 UL60601-1 (Ed.3.1) | CSA C22.2 NO.62368-1 CSA C22.2 NO.60601-1 (Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P60 | |
| | | | | 75W | 15A | - | - | - | | | | | | | |
| | | | | 75W 150W | - | 6.25A 12.5A | - | - | | | | | | | |
| | | | | 75W 150W | - | - | 5A 10A | - | | | | | | | |
| | | | | 75W | - | - | - | 3.13A | | | | | | | |
| | | | | 60W | - | - | - | 2.5A | | | | | | | |
| | | | | 38.4W 60W | - | - | - | - | | | | | | | |
| | | | | 38.4W 60W | - | - | - | - | | | | | | | |

●mOZP series 200W-350W IEC60601-1 certified Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | | | | | | | Safety Standard | | | | | Page | | |
|-----------------------|---|--|---------------------|--|------------------------------|-------|-------|-------|------|------|-------|------|-----------------|---|---|-----|-------|--|-----|---|
| | | | | | Single output | | | | | | | | UL | CSA (c-UL) | EN | CCC | Other | | | |
| | | | | | +3.3V | +5V | +12V | +15V | +24V | +30V | +36V | +48V | | | | | | | | |
| mOZP-200 | AC-DC Single output Parallel operation Low standby power consumption | W/O Chassis and Cover 73×41×222 W/ Chassis and Cover 83×51×252 | 100 - 240V AC | 132W | 40A | - | - | - | - | - | - | - | - | UL60950-1 UL60601-1 (Ed.3) | CSA C22.2 NO.60950-1 CSA C22.2 NO.60601-1 (Ed.3) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P61 | |
| | | | | 198W | 60A | - | - | - | - | - | - | - | - | | | | | | | - |
| | | | | 200W | 40A | - | - | - | - | - | - | - | - | | | | | | | - |
| | | | | 300W | 60A | - | - | - | - | - | - | - | - | | | | | | | - |
| | | | | 200.4W | - | 16.7A | - | - | - | - | - | - | - | | | | | | | - |
| | | | | 400.8W | - | 33.4A | - | - | - | - | - | - | - | | | | | | | - |
| | | | | 201W | - | - | 13.4A | - | - | - | - | - | - | | | | | | | - |
| | | | | 400.5W | - | - | 26.7A | - | - | - | - | - | - | | | | | | | - |
| mOZP-350 | AC-DC Single output Parallel operation Low standby power consumption | W/O Chassis and Cover 95×47×222 W/ Chassis and Cover 107×57×252 | 100 - 240V AC | 300W | - | 25A | - | - | - | - | - | - | - | UL60950-1 UL60601-1 (Ed.1, Ed.3, Ed.3.1, Ed.3.2) | CSA C22.2 NO.60950-1 CSA C22.2 NO.601.1(Ed.1) NO.60601-1(Ed.3, Ed.3.1) UL60601-1(Ed.3.2) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) (IEC60601-1 (Ed.3.2)) | P61 | |
| | | | | 504W | - | 42A | - | - | - | - | - | - | - | | | | | | | |
| | | | | 300W | - | - | 20A | - | - | - | - | - | - | | | | | | | |
| | | | | 600W | - | - | 40A | - | - | - | - | - | - | | | | | | | |
| | | | | 350.4W | - | - | 14.6A | - | - | - | - | - | - | | | | | | | |
| | | | | 600W | - | - | 25A | - | - | - | - | - | - | | | | | | | |
| | | | | 351W | - | - | - | 11.7A | - | - | - | - | - | | | | | | | |
| | | | | 600W | - | - | - | 20A | - | - | - | - | - | | | | | | | |
| | | | | 352.8W | - | - | - | 9.8A | - | - | - | - | | | | | | | | |
| | | | | 601W | - | - | - | 16.7A | - | - | - | | | | | | | | | |
| | | | | 350.4W | - | - | - | - | - | - | 7.3A | - | | | | | | | | |
| | | | | 600W | - | - | - | - | - | - | 12.5A | - | | | | | | | | |

* Except for projections

* Equipped with a variable resistor to adjust output voltage

●mUZP series 120W-220W IEC60601-1 certified Open frame AC-DC single output power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | | | | | | Safety Standard | | | | | Page |
|--|------------------------|---|---------------------|--|------------------------------|-------|-------|-------|-------|-------|--------------------------------|--|---|-----|---|---|------|
| | | | | | Single output | | | | | | | UL | CSA (c-UL) | EN | CCC | Other | |
| | | | | | +12V | +15V | +18V | +24V | +36V | +48V | +5VSB | | | | | | |
| mUZP-120 | AC-DC Single output | W/O Chassis and Cover 62×27×155 W/ Chassis and Cover 72×38.8×185 | 100 - 240V AC | 100.8W ^{*1} | 8.4A | - | - | - | - | - | - | UL60950-1 UL60601-1 (Ed.3.1) | CSA C22.2 NO.60950-1 CSA C22.2 NO.60601-1 (Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P62 |
| | | | | 200.4W | 16.7A | - | - | - | - | - | | | | | | | |
| | | | | 120W | 10A | - | - | - | - | - | | | | | | | |
| | | | | 200.4W | 16.7A | - | - | - | - | - | | | | | | | |
| mUZPT-120 | AC-DC Single output | W/O Chassis and Cover 62×38×155 W/ Chassis and Cover 72×45×185 | 100 - 240V AC | 100.8W ^{*1} | 8.4A | - | - | - | - | - | - | UL60950-1 UL60601-1 (Ed.1, Ed.3.1) | CSA C22.2 NO.60950-1 CSA C22.2 NO.601.1(Ed.1) NO.60601-1(Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P62 |
| | | | | 200.4W | 16.7A | - | - | - | - | - | | | | | | | |
| | | | | 120W | 10A | - | - | - | - | - | | | | | | | |
| | | | | 200.4W | 16.7A | - | - | - | - | - | | | | | | | |
| | | | | 100.5W ^{*1} | 6.7A | - | - | - | - | - | | | | | | | |
| | | | | 201W | 13.4A | - | - | - | - | - | | | | | | | |
| | | | | 120W | 8A | - | - | - | - | - | | | | | | | |
| | | | | 201W | 13.4A | - | - | - | - | - | | | | | | | |
| mUZP-150 | AC-DC Single output | W/O Chassis and Cover 75×35×160 W/ Chassis and Cover 83.8×45×188 | 100 - 240V AC | 150W | 12.5A | - | - | - | - | - | - | UL60950-1 UL60601-1 (Ed.1, Ed.3, Ed.3.1) | CSA C22.2 NO.60950-1 CSA C22.2 NO.601.1(Ed.1) NO.60601-1 (Ed.3, Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P63 |
| | | | | 400.8W | 33.4A | - | - | - | - | - | | | | | | | |
| | | | | 151.2W | - | 8.4A | - | - | - | - | | | | | | | |
| | | | | 401.4W | - | 22.3A | - | - | - | - | | | | | | | |
| | | | | 151.2W | - | - | 6.3A | - | - | - | | | | | | | |
| | | | | 400.8W | - | - | 16.7A | - | - | - | | | | | | | |
| | | | | 153.6W | - | - | - | - | 3.2A | - | | | | | | | |
| | | | | 400.8W | - | - | - | - | 8.35A | - | | | | | | | |
| mUZP-220 | AC-DC Single output | W/O Chassis and Cover 75×36×160 W/ Chassis and Cover 83.8×45×188 | 100 - 240V AC | 180W | 15A | - | - | - | - | - | UL60601-1 (Ed.1, Ed.3, Ed.3.1) | CSA C22.2 NO.601.1(Ed.1) NO.60601-1 (Ed.3, Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P63 | |
| | | | | 400.8W | 33.4A | - | - | - | - | - | | | | | | | |
| | | | | 180W | 10A | - | - | - | - | - | | | | | | | |
| | | | | 401.4W | 22.3A | - | - | - | - | - | | | | | | | |
| mUZP-220/520P | AC-DC Single output | W/O Chassis and Cover 75×36×160 W/ Chassis and Cover 83.8×45×188 | 100 - 240V AC | 220.8W | - | - | - | - | - | - | UL60601-1 (Ed.3.1) | CSA C22.2 NO.60601-1 (Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P64 | |
| | | | | 520.8W | - | - | - | - | - | - | | | | | | | |
| | | | | 220.8W | 9.2A | - | - | - | - | - | | | | | | | |
| | | | | 520.8W | 21.7A | - | - | - | - | - | | | | | | | |
| mUZP-400 <small>Under development</small> | AC-DC Single output | W/O Chassis and Cover 84×45×180 W/ Chassis and Cover 97.2×57.5×212 | 100 - 240V AC | 320.4W | 26.7A | - | - | - | - | - | UL60601-1 (Ed.3.1) | CSA C22.2 NO.60601-1 (Ed.3.1) | EN | CCC | CE Marking (IEC62368-1) (IEC60601-1 (Ed.3.1)) | P64 | |
| | | | | 504W | 42A | - | - | - | - | - | | | | | | | |
| | | | | 403.2W | - | - | 16.8A | - | - | - | | | | | | | |
| | | | | 600W | - | - | 25A | - | - | - | | | | | | | |
| | | | | 403.2W | - | - | - | 11.2A | - | - | | | | | | | |
| | | | | 601.2W | - | - | - | 16.7A | - | - | | | | | | | |
| | | | | 403.2W | - | - | - | - | - | 8.4A | | | | | | | |
| | | | | 600W | - | - | - | - | - | 12.5A | | | | | | | |

1 mUZP-120-**-JUL, JB0 *2 mUZP*-120-**-JBH

●mGPSA series 360W IEC60601-1 certified Unit type AC-DC switching power supply

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) (100/200V AC) | Output current (Max. / Peak) | | | | Safety Standard | | | | | Page | |
|-----------------------|------------------------------------|-----------------------------------|---------------------|---|------------------------------|-----------|------|------|-----------------|-------------------------------------|--|-----|-------|-------|--------|
| | | | | | Single output | | | | UL | CSA (c-UL) | EN | CCC | Other | | |
| | | | | | +12V | +24V | +36V | +48V | | | | | | | +12VSB |
| mGPSA-360 | AC-DC Single output NSP(24V) | 41×128×230 | 100 - 240V AC | 360W | 30A | - | - | - | 0.3A | UL60950-1 UL60601-1 (Ed.1, Ed.3) | CSA C22.2 NO.60950-1 CSA C22.2 NO.601.1(Ed.1) NO.60601-1(Ed.3) | EN | CCC | Other | P67 |
| | | | | 480W | 40A | - | - | - | 0.3A | | | | | | |
| | | | | 360W | - | 15A | - | - | 0.3A | | | | | | |
| | | | | 499.2W/600W | - | 20.8A/25A | - | - | 0.3A | | | | | | |

* Except for projections

■ Description of Icons

| Icon | Description | Icon | Description |
|------|--|------|---|
| | AC - DC switching power supply | | PSU back-up functionality available at AC fail connecting to battery package. |
| | DC - DC switching power supply | | Parallel operation available with embedded current balancing circuit. |
| | Single output power supply. The kind of SB (stand-by) output with like 24V+12VSB output is also single output. | | Energy-saving design with less power consumption in a standby mode. |
| | Multi-output power supply, -more than 2 kinds output, such as 12V+24V, and ATX. Models which has dual-output (Ex: 24V+24V) are counted as "Multi-output" model even its output power is single-output. | | |

DC-DC converter

●100TBFS(Tajubu) series Multiple boosting DC-DC step-up converter

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | Safety Standard | | | | | Page |
|-----------------------|--|-----------------------------------|---------------------|--|------------------------------|--|-----------------|------------|----|-----|-------|------|
| | | | | | Single output | | UL | CSA (c-UL) | EN | CCC | Other | |
| 100TBFS-2500-280 | DC-DC Single output Parallel operation | 283×62×246 | 24V DC | 1200W 1500W | 4.23A 5.28A | | | | | | | P71 |
| | | | 48V DC | 2500W 4000W | 8.8A 14.1A | | | | | | | |
| | | | 96V DC | 4500W 5000W | 15.9A 17.6A | | | | | | | |

●TB(Tajubu) series Multiple boosting DC-DC step-up converter

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Rated Input Voltage | Output Power (Max. Power / Peak Power) | Output current (Max. / Peak) | | Safety Standard | | | | | Page |
|-----------------------|--|-----------------------------------|---------------------|--|------------------------------|--|-----------------|------------|----|-----|-------|------|
| | | | | | Single output | | UL | CSA (c-UL) | EN | CCC | Other | |
| TB | DC-DC Single output Parallel operation | 290×80×200 | 48V DC | 1988W 4544W | — 7A 16A | | | | | | | P71 |
| | | | 24V DC | 1500W 1500W | — 3.52A 5.28A | | | | | | | |
| | | | | 1500W 1540W | 7.4A 11A | | | | | | | |

●dTBR5-5000/3000-155/320 Multiple boosting Two-way DC-DC converter

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | The boost part (discharging to the inverter) | | | | Step down part (charging to the capacitor) | | | | Safety Standard | | | | | Page | |
|-----------------------|--|-----------------------------------|--|---|--|--|--|---|--|--|-----------------|------------|----|-----|-------|------|-----|
| | | | Range of Input Voltage | Output Voltage | Output power (Max. Power / Peak Power) | Output power (Hold-down current limiting point) | Range of Input Voltage | Output Voltage | Output power (Max. Power / Peak Power) | Output current (Max. current / Peak current) | UL | CSA (c-UL) | EN | CCC | Other | | |
| dTBR5 | DC-DC Single output Parallel operation | 290×80×200 | 48 - 230V DC | 320V (regenerative charging ⇒ discharging) | 2000W 3500W | 11A (1A - Peak current) Peak current = Peak output power / Output voltage) | 200 - 420V DC | 70V (initial charging) / 155V (regenerative charging) | 2000W 5000W (Output voltage: 83V min.) | 20A 60A±6A (Output voltage: 83V min.) | | | | | | | P72 |

●100TBFL Step-up Converter

| Series Name / Picture | Type | Specification Dimensions (W×H×D)* | Range of Input Voltage | Range of Output Voltage | Functions | | | | | Cooling System | Circuit structure | Page |
|-----------------------|------------------------|-----------------------------------|------------------------|-------------------------|-----------|-----------|-------------------|----------------------------------|----------------------------------|--------------------|--------------------|------|
| | | | | | Step-up | Step-down | Serial connection | Constant Voltage out-put control | Constant Current out-put control | | | |
| 100TBFL-1000-400V | DC-DC Single output | 135×56×250 | 20 - 300V DC | 100 - 400V DC | ● | — | * | ● | — | Convection cooling | Non-Insulated type | P71 |

* Except for projections

* The outputs can be connected in series only if their input sources are insulated.

■ Description of Icons

| Icon | Description | Icon | Description |
|------|--|------|---|
| | AC - DC switching power supply | | PSU back-up functionality available at AC fail connecting to battery package. |
| | DC - DC switching power supply | | Parallel operation available with embedded current balancing circuit. |
| | Single output power supply. The kind of SB (stand-by) output with like 24V+12VSB output is also single output. | | Energy-saving design with less power consumption in a standby mode. |
| | Multi-output power supply, -more than 2 kinds output, such as 12V+24V, and ATX. Models which has dual-output (Ex: 24V+24V) are counted as "Multi-output" model even its output power is single-output. | | |

Description of products page

Description of Icons

Icons for function

| Icon | Description | Icon | Description |
|------|--|------|--|
| | Startup with DC input only. | | Control with TTL signal (AC_FAIL, BATT_LOW, SHUT_DOWN) is possible. |
| | Control with RS232C signal (AC_FAIL, BATT_LOW, SHUT_DOWN) is possible. | | PFC (power factor correction) is mounted. |
| | Control with USB signal (AC_FAIL, BATT_LOW, SHUT_DOWN) is possible. | | Thermal-sensing variable speed fan, silent fan, or fanless. |
| | Fan rotates at low speed at standby (remote OFF) to reduce heat from +5VSB output. | | Fan rotates at low speed at standby (remote OFF) and detection of temperature increase to reduce heat from +5VSB output. |
| | Output harnesses can be easily customized to meet various requirements. | | Compliant, or scheduled to be compliant. |

Icons for output connector

| Icon | Description | Icon | Description |
|------|---|------|--|
| | 20+4-pin Main connector This is the main power connector for a ATX mother board, and has 20+4 poles. It can be used 20 poles output connectors for the mother board of ATX 12V pre-version 2.0 (ver.1.3) and removable 4 poles is +12V, +3.3V, COM(0V), and +5V. | | 24-pin Main connector This is the main power connector for a ATX mother board, and has 24 poles. It has 20 poles to be added to 4 poles +12V, +3.3V, COM(0V), +5V. |
| | AT connector This is the main power connector for a AT mother board, and has 6 poles connector with a pair of two. | | AUX connector This is the power connector for AUX mother board supplies +3.3V and +5V and has 6 poles. It is supported ATX 12V ver.2.0 or later (ver.1.3) mother board. |
| | 12V 8-pin connector This is the power connector for supplying +12V for a SSI mother board, and has 8 poles. It is used for supplying the CPU with power. | | 6-pin PCI-E connector Connect 6-pin power supply connector to PCI-EXPRESS graphic card. |
| | HDD connector This is the power connector for supplying HDD, CD-R/W, DVD-R/W and other drives with +5V and +12V and has 4 poles. | | S-ATA (Serial ATA) connector 15-pin power connector for S-ATA, provides +3.3V, +5V, and +12V. Connected to S-ATA complying HDD, etc.. |
| | | | 6+2-pin PCI-E connector Connect 6-pin or 8-pin power supply connector to PCI-EXPRESS graphic card. |
| | | | FDD connector 4-pin power connector provides +5V, and +12V to FDD. Provides same output voltage as peripheral connectors, but frequently use only for FDD because the size of connector is small. |

Power Supply for Desktop PCs with UPS function

High efficiency/low standby power consumption, 1000W large capacity nonstop power supply

| | | ATX | | | EPS | | | NSP | | |
|-------------------------------|---|---|-------------|-------|---|-------|-------|-------|-------|--|
| HNSP4-1000P-SA0 Series | | Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS | | | | | | | | |
| | Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | +12V4 | -12V | +5VSB | |
| | Max. current/ Max. power (Continuous) | 25A | 25A | 18A | 18A | 18A | 18A | 1.2A | 3A | |
| | | Total 207.5W | | | Total 792W | | | 14.4W | 15W | |
| | Peak current/ Peak power (5sec. max) | 30A | 30A | 25A | 25A | 25A | 25A | 1.2A | 4A | |
| Total 249W | | | Total 1000W | | | 14.4W | 20W | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | | |
| | | P49 | | | | | | | | |
| Size | 150(W)×85(H)×190(D) | | | | | | | | | |
| Input | 85~264V AC (Worldwide range), 350V DC | | | | | | | | | |
| Series lineup | | Applicable battery packs | | | | | | | | |
| HNSP4-1000P-SA0-H1V | With RS232C signal unit | BS25A-H350/2.5L | | | 5-inch bay 2-unit fixed type, Ni-MH battery | | | P44 | | |
| HNSP4-1000P-SA0-H6V | With USB signal unit | | | | | | | | | |

Medical Standard IEC60601-1 Ed.3 certified, Nonstop power supply

| | | ATX | | | EPS | | | NSP | | |
|----------------------------|---|---|-------------|-------|---|-------|-------|-------|-------|--|
| mHNSP4-1000P Series | | Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS | | | | | | | | |
| | Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | +12V4 | -12V | +5VSB | |
| | Max. current/ Max. power (Continuous) | 25A | 25A | 18A | 18A | 18A | 18A | 1.2A | 3A | |
| | | Total 207.5W | | | Total 792W | | | 14.4W | 15W | |
| | Peak current/ Peak power (5sec. max) | 30A | 30A | 25A | 25A | 25A | 25A | 1.2A | 4A | |
| Total 249W | | | Total 1000W | | | 14.4W | 20W | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | | |
| | | P49 | | | | | | | | |
| Size | 150(W)×85(H)×190(D) | | | | | | | | | |
| Input | 85~264V AC (Worldwide range), 350V DC | | | | | | | | | |
| Series lineup | | Applicable battery packs | | | | | | | | |
| mHNSP4-1000P-SA0-H1V | With RS232C signal unit | BS25A-H350/2.5L | | | 5-inch bay 2-unit fixed type, Ni-MH battery | | | P44 | | |
| mHNSP4-1000P-SA0-H6V | With USB signal unit | | | | | | | | | |

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Complying with 80PLUS BRONZE/low standby power consumption, Nonstop power supply

| | | ATX | | | NSP | | |
|------------------------------|---|---|-----|--|------|-------|--|
| HNSP9-520P-S20 Series | | Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS | | | | | |
| | Output voltage | +3.3V | +5V | +12V | -12V | +5VSB | |
| | Max. current/ Max. power (Continuous) | 20A | 24A | 30A | 0.5A | 2A | |
| | | Total 150W | | Total 390W | | 2A | |
| | Peak current/ Peak power (5sec. max) | 30A | 30A | 35A | 0.5A | 2.5A | |
| Total 200W | | Total 400W | | 2.5A | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | | |
| | | P50 | | | | | |
| Size | 150(W)×86(H)×140(D) | | | | | | |
| Input | 85~264V AC (Worldwide range), 24V DC | | | | | | |
| Series lineup | | Applicable battery packs | | | | | |
| HNSP9-520P-S20-H1V | With RS232C signal unit | BS11A-P24/2.3L | | 5 inch bay fixed type, Lead-acid battery | | P43 | |
| HNSP9-520P-S20-H6V | With USB signal unit | RBS02A-P24/2.3L | | 5 inch bay removable type, Lead-acid battery | | P43 | |
| | | BS10A-H24/2.0L | | 5 inch bay fixed type, Ni-MH battery | | P44 | |
| | | BS22A-H24/2.0L | | 5 inch bay fixed type, Ni-MH battery | | P44 | |

High efficiency/low standby power consumption, Nonstop power supply with 24V output.

| | | ATX | | | NSP | | |
|---|---|---|-----|--|------|-------|-------|
| HNSP9-520P-S20 Series (With 24V output) | | Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS | | | | | |
| | Output voltage | +3.3V | +5V | +12V | -12V | +5VSB | +24V |
| | Max. current/ Max. power (Continuous) | 20A | 24A | 25A | 0.5A | 2.0A | 8.3A |
| | | Total 150W | | Total 300W | | 10W | 200W |
| | Peak current/ Peak power (5sec. max) | 30A | 30A | 35A | 0.5A | 2.5A | 12.5A |
| Total 200W | | Total 507.5W | | 12.5W | 300W | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | |
| | | P50 | | | | | |
| Size | 150(W)×86(H)×175(D) | | | | | | |
| Input | 85~264V AC (Worldwide range), 24V DC | | | | | | |
| Series lineup | | Applicable battery packs | | | | | |
| HNSP9-520P-S20-H1V-24V | With RS232C signal unit | BS11A-P24/2.3L | | 5 inch bay fixed type, Lead-acid battery | | P43 | |
| HNSP9-520P-S20-H6V-24V | With USB signal unit | RBS02A-P24/2.3L | | 5 inch bay removable type, Lead-acid battery | | P43 | |
| | | BS10A-H24/2.0L | | 5 inch bay fixed type, Ni-MH battery | | P44 | |
| | | BS22A-H24/2.0L | | 5 inch bay fixed type, Ni-MH battery | | P44 | |

Additional insulated output unit

- Provides extra +24V output power besides ATX output power for large machinery such as motors and conveyors.
- Also applicable to HPCSA-570P.
- +48V output type also available.
- For any further requests for output voltage, please contact us.



*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi output power supply
Option (Single / Multi output power supply)

Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi output power supply
Option (Single / Multi output power supply)

Power Supply for Desktop PCs with UPS function




High efficiency/low standby power consumption, ATX power supply with 48V output.

HNSP9-520P-S20 Series (With 48V output)

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2013 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB | +48V |
|---|--------------|-----|-------|------|-------|------|
| Max. current/ Max. power (Continuous) | 20A | 24A | 16.5A | 0.5A | 2A | 4A |
| | Total 150W | | | | | |
| | Total 199.1W | | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 30A | 35A | 0.5A | 2.5A | 4A |
| | Total 200W | | | | | |
| | Total 507.5W | | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Continuous max. 305.1W Peak 520W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×86(H)×175(D)
Input: 85~264V AC (Worldwide range), 24V DC

Series lineup

| Model | Signal Unit | Battery Type | Capacity |
|------------------------|-------------------------|--|----------|
| HNSP9-520P-S20-H1V-48V | With RS232C signal unit | 5 inch bay fixed type, Lead-acid battery | P43 |
| HNSP9-520P-S20-H6V-48V | With USB signal unit | 5 inch bay removable type, Lead-acid battery | P43 |
| | | 5 inch bay fixed type, Ni-MH battery | P44 |
| | | 5 inch bay fixed type, Ni-MH battery | P44 |


Applicable battery packs

Outstanding reliability of great actual worldwide sales, Nonstop power supply

eNSP3-450P-S20 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2005 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---|------------|-----|------|------|-------|
| Max. current/ Max. power (Continuous) | 20A | 22A | 22A | 0.5A | 2.0A |
| | Total 160W | | | | |
| | Total 334W | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 33A | 30A | 0.5A | 2.5A |
| | Total 200W | | | | |
| | Total 432W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 350W Peak 450.5W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range), 24V DC

Series lineup

| Model | Signal Unit | Battery Type | Capacity |
|--------------------|---------------------------------------|--|----------|
| eNSP3-450P-S20-H1V | With RS232C signal unit | 5 inch bay fixed type, Lead-acid battery | P43 |
| eNSP3-450P-S20-H6V | With USB signal unit | 5 inch bay removable type, Lead-acid battery | P43 |
| eNSP3-450P-C20-H1V | CCC approved, With RS232C signal unit | 5 inch bay fixed type, Ni-MH battery | P44 |
| eNSP3-450P-C20-H6V | CCC approved, With USB signal unit | 5 inch bay fixed type, Ni-MH battery | P44 |

Applicable capacitor packs


*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Medical Standard IEC60601-1 Ed.2, Ed.3 certified, Nonstop power supply

mNSP3-450P-S20 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2009 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---|------------|-----|------|------|-------|
| Max. current/ Max. power (Continuous) | 20A | 22A | 22A | 0.5A | 2.0A |
| | Total 160W | | | | |
| | Total 285W | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 33A | 30A | 0.5A | 2.5A |
| | Total 200W | | | | |
| | Total 432W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 301W Peak 450.5W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range), 24V DC

Medical Standard IEC60601-1 Ed.2, Ed.3 (MOPP) certified

Series lineup

| Model | Signal Unit | Battery Type | Capacity |
|--------------------|--|--|----------|
| mNSP3-450P-S20-H7V | Medical Standard approved, With RS232C signal unit | 5 inch bay fixed type, Lead-acid battery | P43 |
| mNSP3-450P-S20-H6V | Medical Standard approved, With USB signal unit | 5 inch bay removable type, Lead-acid battery | P43 |
| | | 5 inch bay fixed type, Ni-MH battery | P44 |
| | | 5 inch bay fixed type, Ni-MH battery | P44 |


Applicable battery packs

Power supply compliant with capacitor backup

eNSP4-500P-SA0 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2005 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---|------------|-----|------|------|-------|
| Max. current/ Max. power (Continuous) | 20A | 22A | 22A | 0.5A | 2.0A |
| | Total 160W | | | | |
| | Total 334W | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 33A | 30A | 0.5A | 2.5A |
| | Total 200W | | | | |
| | Total 482W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 350W Peak 500.5W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range), 380V DC

Series lineup

| Model | Signal Unit | Capacitor Package | Capacity |
|--------------------|-------------------------|--|----------|
| eNSP4-500P-SA0-H1V | With RS232C signal unit | 5 inch bay fixed type, capacitor package | P45 |
| eNSP4-500P-SA0-H6V | With USB signal unit | | |

Applicable capacitor packs

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

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

HN5P-350P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

Easy battery replacement is possible by removing fixing panel.

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--|--------------------|---------------------|---------------------|------------|-----------|
| Max. current/Max. power (Continuous) | 12A Total 66.4W | 12A Total 240.4W | 20A Total 245.4W | 0.5A 6W | 1A 5W |
| Peak current/Peak power (5sec. max) | 22A Total 113W | 22A Total 336W | 28A Total 346W | 0.5A 6W | 2A 10W |
| Max. current/Max. power at Backup Operation (Continuous) | 12A Total 66.4W | 12A Total 200W | 16A Total 205W | 0.5A 6W | 2A 10W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 245.4W
Peak 346W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×85(H)×140(D)
Input: 85*1-264V AC (Worldwide range)

Applicable battery packs: Built-in lithium-ion battery

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Outstanding reliability and performance more than 260,000 units sales record

eNSP-300P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2004 Released

| Output voltage | +3.3V | +5V | +12V | -5V | -12V | +5VSB |
|--------------------------------------|-------------------|-------------------|---------------------|------|------|-------|
| Max. current/Max. power (Continuous) | 14A Total 125W | 21A Total 185W | 10A Total 203.6W | 0.3A | 0.8A | 1.5A |
| Peak current/Peak power (5sec. max) | 28A Total 180W | 30A Total 280W | 15A Total 303.6W | 0.3A | 0.8A | 2.5A |
| Min. load | 0A | 1A | 0A | 0A | 0A | 0A |

Continuous max. 203.6W
Peak 303.6W

eNSP-300P-S20 series
Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail -

eNSP-300P-L20 series
Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail -

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 150(W)×86(H)×155(D)
Input: 85-264V AC (Worldwide range), 24V DC

| Series lineup | Applicable battery packs |
|-------------------|---|
| eNSP-300P-S20-11S | With RS232C signal unit BS05A-P24/2.2L 5 inch bay fixed type, Lead-acid battery P43 |
| eNSP-300P-S20-16S | With USB signal unit RBS01A-P24/2.2L 5 inch bay removable type, Lead-acid battery P43 |
| eNSP-300P-L20-11S | 20+4-pin main and S-ATA connector, With RS232C signal unit BS06A-H24/2.5L 5 inch bay fixed type, Ni-MH battery P44 |
| eNSP-300P-L20-16S | 20+4-pin main and S-ATA connector, With USB signal unit BS06B-H24/2.5L 5 inch bay fixed type, Ni-MH battery P44 |

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi output power supply
Option (Single / Multi output power supply)

Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi output power supply
Option (Single / Multi output power supply)

Power Supply for Desktop PCs with UPS function




Large capacity, SFX Nonstop power supply

HPCSF-400P-X2B

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2018 Released



Output voltage: +3.3V, +5V, +12V, -12V, +5VSB

| | | | | | |
|--------------------------------------|------------|-----|------|------|-----|
| Max. current/Max. power (Continuous) | 16A | 16A | 25A | 0.5A | 2A |
| | Total 90W | | 300W | 6W | 10W |
| | Total 310W | | | | |
| | Total 310W | | | | |
| Peak current/Peak power (5sec. max) | 20A | 20A | 30A | 0.5A | 3A |
| | Total 120W | | 360W | 6W | 15W |
| | Total 385W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |
| | Total 400W | | | | |

Continuous max. 310W, Peak 400W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+12pin, HDD, S-ATA, FDD, Detail P50

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 125(W)×63.5(H)×125(D)

Input: 85~264V AC (Worldwide range)

Applicable battery packs: BS28A-H350/2.5L, Ni-MH battery, P45


*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Compliant with SFX 12V standard, palm size small Nonstop power supply

NSP6F-220P-S10

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2010 Released



Output voltage: +3.3V, +5V, +12V, -12V, +5VSB

| | | | | | |
|--------------------------------------|------------|-----|-----|------|------|
| Max. current/Max. power (Continuous) | 10A | 10A | 10A | 0.3A | 1.5A |
| | Total 160W | | 14A | 0.3A | 1.8A |
| Peak current/Peak power (5sec. max) | 10A | 10A | 14A | 0.3A | 1.8A |
| | Total 220W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 160W, Peak 220W

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+12pin, HDD, S-ATA, FDD, Detail



Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Size: 100(W)×63.5(H)×145(D)

Input: 85~264V AC (Worldwide range), 16.8V DC

Applicable battery packs: BP03A-H16/2.5L, Small size type, Ni-MH battery, P43; BS03A-H16/2.5L, 3.5 inch bay fixed type, Ni-MH battery, P43

Conversion harness for RS232C

| Photo | Model | Specification | Compatible pin assignment |
|---|---------------------|---|---|
|  | WH-10RF04XAR-150 | Length=150±10 (Polarizing key) Connection to pin12 Type 1 PIN No. FUNCTION WIRE COLOR/TYPE CONNECTOR TYPE 1 BATT LOW(DCD) White UL1007 AWG#24 Housing: RF-10(JST) 4 SHUT DOWN Yellow UL1007 AWG#24 Terminal: RF-SC2210(JST) 5 GND Black UL1007 AWG#24 Polarizing key 8 AC FAIL(CTS) Blue UL1007 AWG#24 10 (Polarizing key) PK-RF-1(JST) or equivalent Others N.C. - - | The pin assignment of the serial port connector (internal connector) on motherboard. DCD 1 2 DSR RXD(SIN) 3 4 RTS TXD(SOUT) 5 6 CTS DTR 7 8 RI GND 9 |
|  | WH-10RF04XAR-150-01 | Length=150±10 (Polarizing key) Connection to pin12 Type 2 PIN No. FUNCTION WIRE COLOR/TYPE CONNECTOR TYPE 1 BATT LOW(DCD) White UL1007 AWG#24 Housing: RF-10(JST) 3 GND Black UL1007 AWG#24 Terminal: RF-SC2210(JST) 7 SHUT DOWN(DTR) Yellow UL1007 AWG#24 Polarizing key 9 AC FAIL(CTS) Blue UL1007 AWG#24 10 (Polarizing key) PK-RF-1(JST) or equivalent Others N.C. - - | The pin assignment of the serial port connector (internal connector) on motherboard. DCD 1 2 RXD(SIN) TXD(SOUT) 3 4 DTR GND 5 6 DSR RTS 7 8 CTS RI 9 |

*Harness for automatic shutdown at blackout. Please select the compatible conversion harness for RS232C to the pin assignments of serial port connector for your motherboard.
*Need harness as above for the connection to motherboard

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)


Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi out-put power supply
Option (Single / Multi out-put power supply)

Power Supply for Desktop PCs with UPS function
Power Supply for Desktop PCs
Power Supply for System Rack
Option (Power Supply for PC)
Single / Multi out-put power supply
Option (Single / Multi out-put power supply)

Peak 1500W large capacity & high efficiency ATX power supply

HPCSA-1500P-E2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



| Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | +12V4 | +12V5 | +12V6 | +12V7 | -12V | +5VSB | |
|---------------------------------------|--------------|-----|-------|-------------|-------|-------|-------|-------|-------|------|-------|--|
| Max. current/ Max. power (Continuous) | 25A | 25A | 24A | 24A | 24A | 24A | 24A | 24A | 24A | 1A | 3A | |
| | Total 207.5W | | | Total 1200W | | | | | | 15W | | |
| | Total 1200W | | | | | | | | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 30A | 32A | 32A | 32A | 32A | 32A | 32A | 32A | 1.2A | 4A | |
| | Total 207.5W | | | Total 1500W | | | | | | 20W | | |
| | Total 1500W | | | | | | | | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | |

Continuous max. 1200W
Peak 1500W


Size: 150(W)×85(H)×200(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P49

Peak 700W large capacity & high efficiency ATX power supply

HPCSA-700P-E2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



| Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | -12V | +5VSB | |
|---------------------------------------|------------|-----|-------|------------|-------|------|-------|-----|
| Max. current/ Max. power (Continuous) | 16A | 16A | 18A | 18A | 18A | 1A | 2A | |
| | Total 90W | | | Total 600W | | | | 10W |
| | Total 600W | | | | | | | |
| Peak current/ Peak power (5sec. max) | 20A | 20A | 25A | 25A | 25A | 1A | 3A | |
| | Total 120W | | | Total 700W | | | | 15W |
| | Total 700W | | | | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A | |

Continuous max. 600W
Peak 700W


Size: 150(W)×85(H)×150(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P49

Complying with 80PLUS SILVER & ErP directive, large capacity PC power supply

HPCSA-1000P-E2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



| Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | +12V4 | -12V | +5VSB | |
|---------------------------------------|--------------|-----|-------|-------------|-------|-------|------|-------|--|
| Max. current/ Max. power (Continuous) | 25A | 25A | 18A | 18A | 18A | 18A | 0.4A | 3A | |
| | Total 207.5W | | | Total 792W | | | | 0.4A | |
| | Total 822W | | | | | | | | |
| Peak current/ Peak power (5sec. max) | 30A | 30A | 25A | 25A | 25A | 25A | 0.6A | 4A | |
| | Total 249W | | | Total 1000W | | | | 0.6A | |
| | Total 1000W | | | | | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A | 0A | |

Continuous max. 822W
Peak 1000W

Size: 150(W)×85(H)×190(D)
Input: 85~264V AC (Worldwide range)


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD, Detail P49

Series lineup

| | |
|--------------------|---|
| HPCSA-1000P-E2S1 | High efficiency/low standby power consumption model |
| HPCSA-1000P-E2S-MN | The set model of a power cable and output harness |

MINAMOTTO-SAN series ready to use with full options!

HPCSA-1000P-E2S-MN



| Contents | Name of article and quantity |
|--|---|
| Power supply | HPCSA-1000P-E2S : 1 unit. |
| AC power cable 2P conversion plug AC cable coming-off prevention bracket Instruction manual | each 1 pc. |
| Mounting screws | Power supply mounting screw: M3 6mm Screw (black) /12 pcs. (include spares) |
| Output harness | -Main power cable- WH-M2422-500(24-pin) : 1 pc. -12V power cable- WH-V0408-500(12V 4-pin) : 1 pc. WH-V0808-500(12V 8-pin) : 1 pc. WH-G0808-500(PCI-E 6+2-pin) : 2 pcs. WH-GG208-500(PCI-E 6-pin, PCI-E 6+2-pin) : 2 pcs. -HD power cable- WH-PS610-850(S-ATA×2, Peripheral×3, FD×1) : 1 pc. WH-PS710-850(S-ATA×4, Peripheral×2, FD×1) : 2 pcs. |

*1 Refer to product specifications for details as derating is required.

Complying with 80PLUS BRONZE & ErP directive ATX power supply

HPCSA-570P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2011 Released

Continuous max. 400W
Peak 570W

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---------------------------------------|-------------------|-------------------|-------------------|------|-------|
| Max. current/ Max. power (Continuous) | 20A Total 150W | 24A Total 390W | 30A Total 400W | 0.5A | 2A |
| Peak current/ Peak power (5sec. max) | 30A Total 200W | 30A Total 555W | 35A Total 570W | 0.5A | 3A |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCLE 6pin, PCLE 6+2pin, HDD, S-ATA, FDD, Detail P50

High efficiency/low standby power consumption, ATX power supply with 24V output

HPCSA-570P-X2S-24V

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2013 Released

Continuous max. 400W
Peak 570W

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB | +24V |
|---------------------------------------|-------------------|-------------------|-------------------|------|-------|----------------------|
| Max. current/ Max. power (Continuous) | 20A Total 150W | 24A Total 300W | 25A Total 400W | 0.5A | 2A | 8.3A 199.2W |
| Peak current/ Peak power (5sec. max) | 30A Total 200W | 30A Total 555W | 35A Total 570W | 0.5A | 3A | 12.5A 15W 300W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Size: 150(W)×86(H)×175(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCLE 6pin, PCLE 6+2pin, HDD, S-ATA, FDD, Detail P50

High efficiency/low standby power consumption, ATX power supply with 48V output

HPCSA-570P-X2S-48V

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

Continuous max. 305.1W
Peak 570W

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB | +48V |
|---------------------------------------|-------------------|---------------------|-----------------------|------|-------|-------------------|
| Max. current/ Max. power (Continuous) | 20A Total 150W | 24A Total 199.1W | 16.5A Total 305.1W | 0.5A | 2A | 4A 192W |
| Peak current/ Peak power (5sec. max) | 30A Total 200W | 30A Total 555W | 35A Total 570W | 0.5A | 3A | 4A 15W 192W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Size: 150(W)×86(H)×175(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCLE 6pin, PCLE 6+2pin, HDD, S-ATA, FDD, Detail P50

*1 Refer to product specifications for details as derating is required.

More than 120,000 units sales record, Best selling model with outstanding reliability and performance

ePCSA-500P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2005 Released

Continuous max. 350W
Peak 500.5W

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---------------------------------------|-------------------|-------------------|---------------------|------|-------|
| Max. current/ Max. power (Continuous) | 20A Total 160W | 22A Total 334W | 22A Total 350W | 0.5A | 2A |
| Peak current/ Peak power (5sec. max) | 30A Total 200W | 33A Total 482W | 30A Total 500.5W | 0.5A | 2.5A |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCLE 6pin, PCLE 6+2pin, HDD, S-ATA, FDD, Detail P50

Series lineup

| | |
|-------------------|---|
| ePCSA-500P-X2S | Best-selling model |
| ePCSA-500P-X2C | CCC certified |
| ePCSA-500P-X2S-MN | The set model of a power cable and output harness |

MINAMOTTO-SAN series ready to use with full options!

ePCSA-500P-X2S-MN

Set contents

| Contents | Name of article and quantity |
|--|--|
| Power supply | ePCSA-500P-X2S : 1 unit. |
| AC power cable 2P conversion plug AC cable coming-off prevention bracket Instruction manual | each 1 pc. |
| Mounting screws | Power supply mounting screw: M3 6mm Screw (black) /12 pcs. (include spares) |
| Output harness | -Main power cable- WH-M2024-500(20-pin) : 1 pc. WH-M2424-500(24-pin) : 1 pc. -12V power cable- WH-V0808-500(12V 8-pin) : 1 pc. WH-VG208-500(PCLE-E 6-pin, 12V 4-pin) : 1 pc. -HD power cable- WH-PS610-850(S-ATA×2, Peripheral×3, FD×1) : 2 pcs. WH-PS710-850(Peripheral×5, FD×1) : 1 pcs. |

Medical Standard IEC60601-1 Ed.2, Ed.3 certified, ATX power supply

mPCSA-500P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2009 Released

Medical Standard IEC60601-1 Ed.2, Ed.3 (MOPP) certified

Continuous max. 301W
Peak 500.5W

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---------------------------------------|-------------------|-------------------|---------------------|------|-------|
| Max. current/ Max. power (Continuous) | 20A Total 160W | 22A Total 285W | 22A Total 301W | 0.5A | 2A |
| Peak current/ Peak power (5sec. max) | 30A Total 200W | 33A Total 482W | 30A Total 500.5W | 0.5A | 2.5A |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Size: 150(W)×86(H)×140(D)
Input: 85~264V AC (Worldwide range)


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCLE 6pin, PCLE 6+2pin, HDD, S-ATA, FDD, Detail P50

*1 Refer to product specifications for details as derating is required.

Worldwide range input 370W class ATX power supply ATX

PCSA-370P Series Function DC start RS 232C USB TTL PFC Silence 5VSB FAN TSFC FAN Connection RoHS

2006 Released



cULus CCC CE

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---------------------------------------|-------------------|-------------------|---------------------|------|-------|
| Max. current/ Max. power (Continuous) | 17A Total 20A* | 21A Total 267W | 18A Total 280.5W | 0.5A | 1.5A |
| Peak current/ Peak power (5sec. max) | 20A Total 35A | 25A Total 352W | 18A Total 370.5W | 0.5A | 2.5A |
| Min. load | 0A | 2A | 0A | 0A | 0A |

*30A max. in terms of safety standard

PCSA-370P-X2S

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

PCSA-370P-X2S1

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

PCSA-370P-X2S3

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD


Continuous max. **280.5W**
 Peak **370.7W**

Size 150(W)×86(H)×140(D)
 Input 90–264V AC (Worldwide range)

Designated for 100V input, low-cost type ATX power supply ATX

PCSE-370P Series Function DC start RS 232C USB TTL PFC Silence 5VSB FAN TSFC FAN Connection RoHS

2005 Released



cULus CCC CE

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|---------------------------------------|-------------------------|-------------------|---------------------|------|-------|
| Max. current/ Max. power (Continuous) | 17A Total 151.2W/35A | 21A Total 267W | 18A Total 280.5W | 0.5A | 1.5A |
| Peak current/ Peak power (5sec. max) | 20A Total 158W/35A | 25A Total 352W | 18A Total 370.5W | 0.5A | 2.5A |
| Min. load | 0A | 1A | 0A | 0A | 0A |

PCSE-370P-X2S

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

PCSE-370P-X2S2

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD


Continuous max. **280.5W**
 Peak **370.5W**

Size 150(W)×86(H)×140(D)
 Input 90–132V AC

More than 210,000 units sales record, high reliability resin panel PC power supply ATX

eNSP-300P Series Function DC start RS 232C USB TTL PFC Silence 5VSB FAN TSFC FAN Connection RoHS

2002 Released



cULus CE

| Output voltage | +3.3V | +5V | +12V | -5V | -12V | +5VSB |
|---------------------------------------|-------------------|-------------------|---------------------|------|------|-------|
| Max. current/ Max. power (Continuous) | 14A Total 125W | 21A Total 185W | 10A Total 203.6W | 0.3A | 0.8A | 1.5A |
| Peak current/ Peak power (5sec. max) | 28A Total 180W | 30A Total 280W | 15A Total 303.6W | 0.3A | 0.8A | 2.5A |
| Min. load | 0A | 1A | 0A | 0A | 0A | 0A |

eNSP-300P-S20-00S

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

eNSP-300P-L20-00S

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Continuous max. **203.6W**
 Peak **303.6W**

Size 150(W)×86(H)×120(D)
 Input 85–264V AC (Worldwide range)

Series lineup


| | |
|-------------------|-----------------------------------|
| eNSP-300P-S20-00S | 20-pin main |
| eNSP-300P-L20-00S | 20+4-pin main and S-ATA connector |

*1 Refer to product specifications for details as derating is required.

Complying with 80PLUS BRONZE & ErP directive SFX power supply

HPCSF-400P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



2011 Released

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|-------------------|-------------------|-------------------|------------------|-----------------|
| Max. current/Max. power (Continuous) | 16A Total 90W | 16A Total 300W | 25A Total 310W | 0.5A Total 6W | 2A Total 10W |
| Peak current/Peak power (5sec. max) | 20A Total 120W | 20A Total 360W | 30A Total 385W | 0.5A Total 6W | 3A Total 15W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 310W
Peak 400W

Size: 125(W)×63.5(H)×125(D)
Input: 85~264V AC (Worldwide range)

Series lineup:
HPCSF-400P-X2S
HPCSF-400P-X2S1 AC power cord falling prevention metal fitting attachable type


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: P50

Domestic sales only, economical SFX 12V power supply

PCSFE-250P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



2006 Released

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|-------------------|---------------------|---------------------|--------------------|--------------------|
| Max. current/Max. power (Continuous) | 12A Total 70W | 12A Total 189.8W | 12A Total 198.4W | 0.3A Total 3.6W | 1A Total 5W |
| Peak current/Peak power (5sec. max) | 12A Total 120W | 12A Total 360W | 14A Total 378W | 0.3A Total 3.6W | 1.5A Total 7.5W |
| Min. load | 0A | 0A | 0.3A | 0A | 0A |

Continuous max. 198.4W
Peak 248.9W

Size: 100(W)×63.5(H)×125(D)
Input: 90-120V AC


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: —

Medical Standard IEC60601-1 Ed.3.1 certified, SFX power supply

mHPCSF-400P-X2S1

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



2015 Released

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|-------------------|-------------------|-------------------|------------------|-----------------|
| Max. current/Max. power (Continuous) | 16A Total 90W | 16A Total 300W | 25A Total 310W | 0.5A Total 6W | 2A Total 10W |
| Peak current/Peak power (5sec. max) | 20A Total 120W | 20A Total 360W | 30A Total 385W | 0.5A Total 6W | 3A Total 15W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Medical Standard IEC60601-1 Ed.3.1 (MOOP) certified

Continuous max. 310W
Peak 400W

Size: 125(W)×63.5(H)×125(D)
Input: 85~264V AC (Worldwide range)


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: P50

Small size but large-capacity SFX12V power supply for industrial use

PCSF-200P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



2004 Released

| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|-------------------|---------------------|--------------------|--------------------|--------------------|
| Max. current/Max. power (Continuous) | 16A Total 70W | 12A Total 141.8W | 9A Total 150.4W | 0.3A Total 3.6W | 1A Total 5W |
| Peak current/Peak power (5sec. max) | 16A Total 120W | 12A Total 360W | 10A Total 370W | 0.3A Total 3.6W | 1.5A Total 7.5W |
| Min. load | 0.3A | 0.3A | 0.5A | 0A | 0A |

Continuous max. 150.4W
Peak 200W

Size: 100(W)×63.5(H)×125(D)
Input: 85-264V AC (Worldwide range)


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: —

+12V Dual output SFX power supply

PCSF-350P-X2S1

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



2006 Released

| Output voltage | +3.3V | +5V | +12V1 | +12V2 | -12V | +5VSB |
|--------------------------------------|-----------------------|-------------------|-------------------|-------------------|--------------------|-----------------|
| Max. current/Max. power (Continuous) | 14A Total 90W | 16A Total 220W | 10A Total 250W | 16A Total 250W | 0.5A Total 6W | 2A Total 10W |
| Peak current/Peak power (5sec. max) | 20A Total 25A/120W | 21A Total 360W | 16A Total 220W | 22A Total 264W | 0.8A Total 9.6W | 3A Total 15W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Continuous max. 250W
Peak 350W

Size: 125(W)×63.5(H)×125(D)
Input: 85~264V AC (Worldwide range)


Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: P50

Longtime seller with outstanding reliability, and performance AT power supply (No PFC circuit)

PCS-250-H11

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS



1997 Released

| Output voltage | +5V | +12V | -5V | -12V |
|--------------------------------------|-------------------|-------------------|--------------------|------------------|
| Max. current/Max. power (Continuous) | 30A Total 220W | 12A Total 264W | 0.5A Total 4.5W | 0.5A Total 6W |
| Peak current/Peak power (5sec. max) | 30A Total 225W | 12A Total 360W | 0.5A Total 4.5W | 0.5A Total 6W |
| Min. load | 2A | 0.5A | 0A | 0A |

Continuous max. 228.5W
Peak 253.5W

Size: 150(W)×86(H)×140(D)
Input: 90-132V AC/180-264V AC (with a switch)

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PC-E 6pin, PC-E 6+2pin, HDD, S-ATA, FDD

Detail: —

*1 Refer to product specifications for details as derating is required.

*1 Refer to product specifications for details as derating is required.

Power Supply for System Rack with UPS function

Power Supply for System Rack




Flex ATX, small 1U size power supply 1U/Flex

HPCFX-350P-X2B

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2018 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|--------------------|-------------------|-------------------|------------|-----------|
| Max. current/Max. power (Continuous) | 12A Total 66.4W | 12A Total 240W | 20A Total 245W | 0.5A 6W | 1A 5W |
| Peak current/Peak power (5sec. max) | 16A Total 83W | 16A Total 336W | 28A Total 336W | 0.5A 6W | 2A 10W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional*2): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Applicable OS to automatic shutdown*3: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Continuous max. 245W, Peak 346W

Applicable battery packs: BS28A-H350/2.5L, Ni-MH battery


Size: 81.5(W)×41(H)×150(D) | Input: 85~264V AC (Worldwide range)

80PLUS BRONZE/ErP directive compliant, high efficiency, energy-saving 1U size power supply 1U

HPC1U-400P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|-------------------|-------------------|-------------------|------------|--------------|
| Max. current/Max. power (Continuous) | 16A Total 90W | 16A Total 300W | 25A Total 305W | 0.5A 6W | 1.5A 7.5W |
| Peak current/Peak power (5sec. max) | 20A Total 120W | 20A Total 390W | 30A Total 390W | 0.5A 6W | 2A 10W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Continuous max. 305W, Peak 400W

Size: 100(W)×41(H)×190(D) | Input: 85~264V AC (Worldwide range)


*1 Refer to product specifications for details as derating is required. *2 Except for Main connector *3 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Flex ATX, small 1U size power supply 1U/Flex

HPCFX-350P-X2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2017 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|--------------------|-------------------|-------------------|------------|-----------|
| Max. current/Max. power (Continuous) | 12A Total 66.4W | 12A Total 240W | 20A Total 245W | 0.5A 6W | 1A 5W |
| Peak current/Peak power (5sec. max) | 16A Total 83W | 16A Total 336W | 28A Total 336W | 0.5A 6W | 2A 10W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Continuous max. 245W, Peak 346W


Size: 81.5(W)×41(H)×150(D) | Input: 85~264V AC (Worldwide range)

Flex ATX, small 1U size power supply 1U/Flex

PCFX-220P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2010 Released



| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
|--------------------------------------|------------------|-------------------|-------------------|--------------|-----------|
| Max. current/Max. power (Continuous) | 10A Total 75W | 10A Total 170W | 10A Total 170W | 0.3A 3.6W | 2A 10W |
| Peak current/Peak power (5sec. max) | 12A Total 85W | 12A Total 220W | 12A Total 220W | 0.3A 3.6W | 2A 10W |
| Min. load | 0A | 0A | 0.5A | 0A | 0A |

Output connectors: Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Continuous max. 170W, Peak 220W

Series lineup: PCFX-220P-X2S (With mounting hook), PCFX-220P-X2P (Without mounting hook, flat type)

Size: 81.5(W)×41(H)×150(D) | Input: 90-264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required.

Fanless and slim Nonstop power supply

HPCFL-400P-X2S

2013 Released

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

Output voltage: +3.3V, +5V, +12V, -12V, +5VSB

| | | | | | |
|--|------------|-----|------------|------|------|
| Max. current/Max. power (Continuous) (At convection cooling) | 10A | 10A | 14A | 0.2A | 1A |
| | Total 83W | | Total 170W | | |
| Max. current/Max. power (Continuous) (At forced air cooling) | 16A | 16A | 25A | 0.5A | 1.5A |
| | Total 90W | | Total 305W | | |
| Peak current/Peak power (5sec. max) | 20A | 20A | 30A | 0.5A | 2A |
| | Total 120W | | Total 400W | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 170W
At convection cooling
At forced air cooling 305W
Peak 400W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCIE 6pin, PCIE 6+2pin, HDD, S-ATA, FDD, Detail P52

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Applicable battery packs: BS28A-H350/2.5L, Ni-MH battery, P45

Battery connection harness "WH-05XA09ELP-200" is needed for a backup operation at blackout.

Size: 106(W)×37(H)×225(D)
Input: 85~264V AC (Worldwide range)

Fanless power supplies for ATX, ATX output plus the output for machines (+24V) are also in our lineup

PCFL-180P Series

2005 Released

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

| | | | | | | |
|--|---|----------|--|---|-------|-------|
| Output voltage | +3.3V | +5V | +12V | +24V | -12V | +5VSB |
| PCFL-180P-X2S2 | ○ | ○ | ○ | — | ○ | ○ |
| PCFL-180P-F1S | — | ○ | ○ | ○ | ○ | ○ |
| PCFL-180P-F2S | ○ | ○ | ○ | ○ | ○ | ○ |
| Max. current/Max. power (Continuous) | At convection cooling (basic structure) | 10A | 10A | 7.5A | 3.75A | 0.3A |
| | | 60W max. | | within output power cross regulation (90W max.) | | |
| | At convection cooling (with special AL heat sink) | 10A | 10A | 8.5A | 4.25A | 0.3A |
| | 70W max. | | within output power cross regulation (102W max.) | | | |
| At forced air cooling* (with external fan) | 10A | 10A | 10A | 5A | 0.3A | 1.5A |
| | 10A | | within output power cross regulation (150W max.) | | | |
| Peak current/Peak power (5sec. max) | 10A | 10A | 15A | 7.5A | 0.3A | 2A |
| | 10A | | within output power cross regulation (180W max.) | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Continuous max. 90W
Peak 180W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCIE 6pin, PCIE 6+2pin, HDD, S-ATA, FDD, Detail P52

Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Series lineup:
PCFL-180P-X2S2: ATX output, with power failure backup function
PCFL-180P-F1S: +5V, +12V, -12V, +5VSB and +24V equipped (+3.3V not equipped)
PCFL-180P-F2S: ATX and +24V equipped

Applicable battery packs: BS17A-H24/2.0L, 3.5 inch bay fixed type, Ni-MH battery, P43

Battery connection harness "WH-02VH02VH-250" is needed for a backup operation at blackout.

Size: 93(W)×55(H)×160(D)
Input: 85~264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)

Fanless Nonstop ATX power supply with DC start-up

PCFD-180P-X2S

2007 Released

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

| | | | | | |
|---|----------|-----|--|------|-------|
| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
| Max. current/Max. power (Continuous) | 10A | 10A | 7.5A | 0.3A | 1A |
| | 60W max. | | within output power cross regulation (90W max.) | | |
| At convection cooling (with special AL heat sink) | 10A | 10A | 8.5A | 0.3A | 1A |
| | 70W max. | | within output power cross regulation (102W max.) | | |
| At forced air cooling* (with external fan) | 10A | 10A | 10A | 0.3A | 1.5A |
| | 10A | | within output power cross regulation (120W max.) | | |
| Peak current/Peak power (5sec. max) | 10A | 10A | 15A | 0.3A | 1.8A |
| | 10A | | within output power cross regulation (180W max.) | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 90W
Peak 180W

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCIE 6pin, PCIE 6+2pin, HDD, S-ATA, FDD, Detail P52

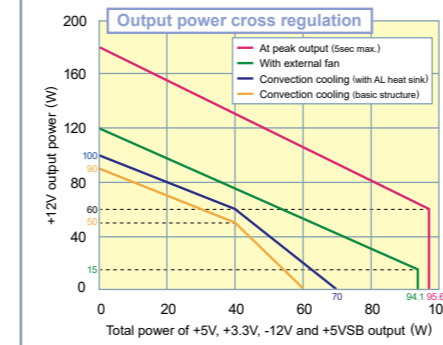
Applicable OS to automatic shutdown*2: Windows 2000, Windows XP, Windows Vista, Windows 7, Windows 10

Applicable battery packs: BS17A-H24/2.0L, 3.5 inch bay fixed type, Ni-MH battery, P43

Battery connection harness "WH-02VH02VH-250" is needed for a backup operation at blackout.

Size: 93(W)×55(H)×160(D)
Input: 20~36V DC

*1 Refer to product specifications for details as derating is required. *2 For automatic shutdown, shutdown software or UPS services is required. (Refer to P.48.)




Newcomer with full model change with high efficiency! Redundant power supply with Primary Redundant system ERP 2U

pNSP2U-1000P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2011 Released



pNSP2U-1000P-AAS

| | | | | | |
|---------------------------------------|--------------|-----|-------|------|-------|
| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
| Max. current/ Max. power (Continuous) | 20A | 20A | 63.3A | 0.5A | 2A |
| | Total 775.6W | | | | |
| Peak current/ Peak power (5sec. max) | 21A | 21A | 66A | 0.5A | 2A |
| | Total 982.3W | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

pNSP2U-1000P-AAS(12V)

| | | |
|---------------------------------------|-------------|-------|
| Output voltage | +12V | +5VSB |
| Max. current/ Max. power (Continuous) | 66A | 2A |
| | Total 802W | |
| Peak current/ Peak power (5sec. max) | 83A | 2A |
| | Total 1006W | |
| Min. load | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Size: 108(W)×83.8(H)×350(D)
Input: 85~264V AC (Worldwide range)


Continuous max. 775.6W
Peak 982.3W

Applied model of non-stop power supply! Redundant power supply employed the new idea of primary redundant method!! ERP 2U

pNSP2U-550P-AAS

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2005 Released



pNSP2U-550P-AAS

| | | | | | | | |
|---------------------------------------|------------|-----|--------------|-------|-------|------|-------|
| Output voltage | +3.3V | +5V | +12V1 | +12V2 | +12V3 | -12V | +5VSB |
| Max. current/ Max. power (Continuous) | 20A | 20A | 18A | 12A | 10A | 0.5A | 2A |
| | Total 25A | | Total 35A | | | | |
| | | | Total 427.6W | | | | |
| Peak current/ Peak power (5sec. max) | 20A | 20A | 18A | 12A | 16A | 0.5A | 2A |
| | Total 25A | | Total 44A | | | | |
| | Total 550W | | | | | | |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Size: 108(W)×83.8(H)×400(D)
Input: 85~264V AC (Worldwide range)


Continuous max. 427.6W
Peak 550W

Much safer by using Nipron's unique circuit technology, "Primary Redundant system" ERP 2U

pNSP2U-330P-A2A2S

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2007 Released



pNSP2U-330P-A2A2S

| | | | | | |
|---------------------------------------|------------|-----|------------|------|-------|
| Output voltage | +3.3V | +5V | +12V | -12V | +5VSB |
| Max. current/ Max. power (Continuous) | 10A | 10A | 18A | 0.5A | 2A |
| | Total 260W | | Total 276W | | |
| Peak current/ Peak power (5sec. max) | 15A | 15A | 25A | 0.5A | 2A |
| | Total 312W | | Total 328W | | |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

Size: 108(W)×83.8(H)×300(D)
Input: 85~264V AC (Worldwide range)

Continuous max. 276W
Peak 328W


*1 Refer to product specifications for details as derating is required.

Redundant power supply realized high efficiency/ high reliability 1U

FR1UA-350P-AAS

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2014 Released



FR1UA-350P-AAS

| | | |
|---------------------------------------|------------|-------|
| Output voltage | +12V | +5VSB |
| Max. current/ Max. power (Continuous) | 24A | 2.0A |
| | 288W | 10W |
| Peak current/ Peak power (5sec. max) | 29A | 2.0A |
| | 348W | 10W |
| | Total 348W | |
| Min. load | 0A | 0A |

Output connectors (Optional): Main 20+4pin, Main 24pin, Main 20pin, AT, AUX, 12V 4pin, 12V 8pin, PCI-E 6pin, PCI-E 6+2pin, HDD, S-ATA, FDD

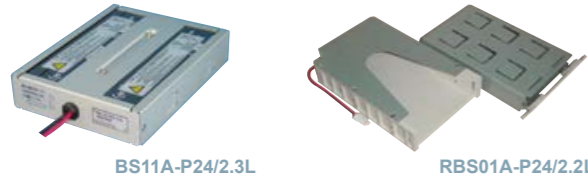
Size: 120(W)×41(H)×350(D)
Input: 85~264V AC (Worldwide range)

Continuous max. 298W
Peak 348W

*1 Refer to product specifications for details as derating is required.

5 inch bay, Lead-acid battery packs Lead-acid

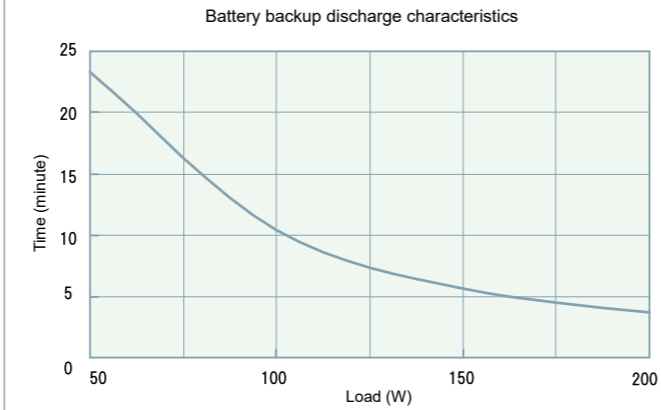
5 inch bay fixed type Removable type
BS05A-P24/2.2L **RBS01A-P24/2.2L**
BS11A-P24/2.3L **RBS02A-P24/2.3L**



Backup Time
 Load: **100W**
 Time: **10min.**

Backup Time
 Load: **100W**
 Time: **10min.**

| | | | |
|---|--|----------------|--------|
| Capacity | 24V DC/2.3AH | Output voltage | 24V DC |
| Dimensions | BS11A-P24/2.3L, BS05A-P24/2.2L: 146(W)×37(H)×190(D) RBS02A-P24/2.3L, RBS01A-P24/2.2L: 148(W)×42(H)×245(D) | | |
| Applicable power supply for BS11A-P24/2.3L, RBS02A-P24/2.3L | | | |
| HNSP9-520P series | P22 | | |
| HNSP9-520P series(With 24V/48V output) | P22,23 | | |
| eNSP3-450P series | P23 | | |
| mNSP3-450P series | P24 | | |



Applicable power supply for BS05A-P24/2.2L, RBS01A-P24/2.2L
 eNSP-300P series P26

Lead-acid compatible, 5 inch bay fixed type Ni-MH

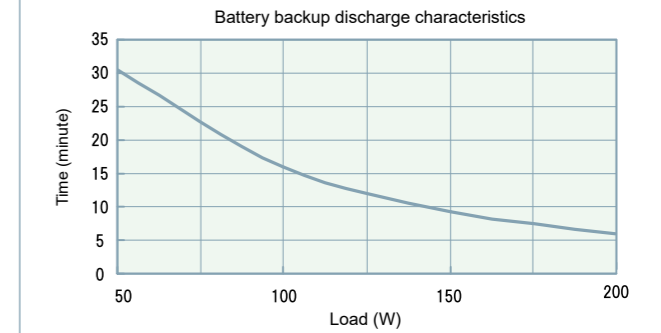
BS06A-H24/2.5L Standby use
BS06B-H24/2.5L Cycle use



BS06B-H24/2.5L

Backup Time
 Load: **100W**
 Time: **15min.**

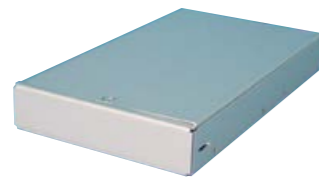
| | | | |
|------------|---------------------|----------------|--------------------------|
| Capacity | 16.8V DC/2.5AH | Output voltage | 23V DC typ ^{*1} |
| Dimensions | 146(W)×38(H)×181(D) | | |



Applicable power supply
 eNSP-300P series P26

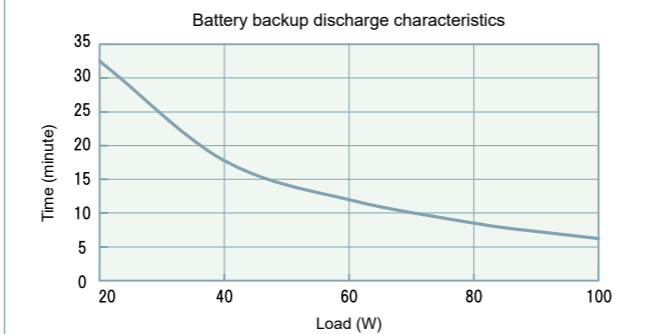
3.5 inch bay fixed type battery pack Ni-MH

BS17A-H24/2.0L



Backup Time
 Load: **90W**
 Time: **7min.**

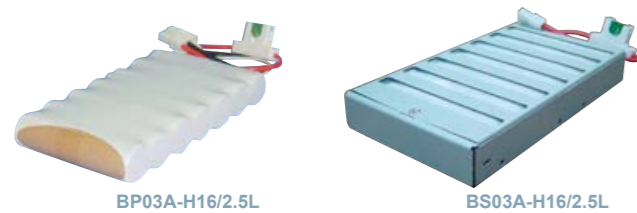
| | | | |
|------------|-----------------------|----------------|--------------------------|
| Capacity | 9.6V DC/2.0AH | Output voltage | 18V DC typ ^{*1} |
| Dimensions | 101.5(W)×25(H)×180(D) | | |



Applicable power supply
 PCFL-180P-X2S2 P39
 PCFD-180P-X2S P40

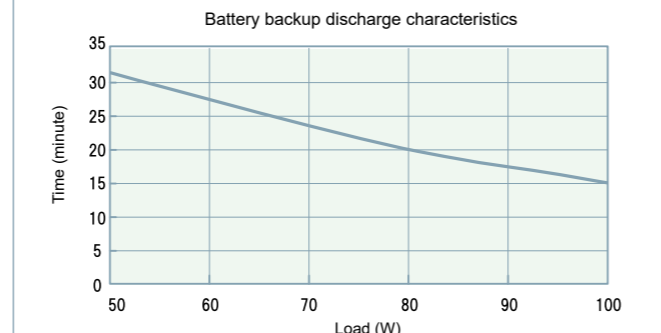
3.5 inch bay fixed type battery packs Ni-MH

BP03A-H16/2.5L **BS03A-H16/2.5L**
 (Equipped with 3.5 inch bay mounting case)



Backup Time
 Load: **100W**
 Time: **15min.**

| | | | |
|------------|---|----------------|----------|
| Capacity | 16.8V DC/2.5AH | Output voltage | 16.8V DC |
| Dimensions | BP03A-H16/2.5L: 92.5(W)×23.7(H)×159.5(D) BS03A-H16/2.5L: 101.5(W)×26.5(H)×180(D) | | |



Applicable power supply
 NSP6F-220P series P28

5 inch bay, Ni-MH battery packs Ni-MH

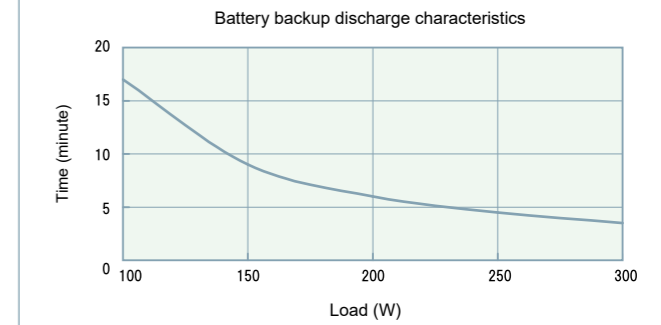
BS10A-H24/2.0L
BS22A-H24/2.0L (With intelligence function, refer to P.48)



BS10A-H24/2.0L

Backup Time
 Load: **100W**
 Time: **17min.**

| | | | |
|------------|--|----------------|--------|
| Capacity | 24V DC/1.8AH | Output voltage | 24V DC |
| Dimensions | BS10A-H24/2.0L: 146(W)×38(H)×200(D) BS22A-H24/2.0L: 146(W)×41(H)×210(D) | | |



Applicable power supply
 HNSP9-520P series P22
 HNSP9-520P series (With 24V/48V output) P22,23
 eNSP3-450P series P23
 mNSP3-450P series P24

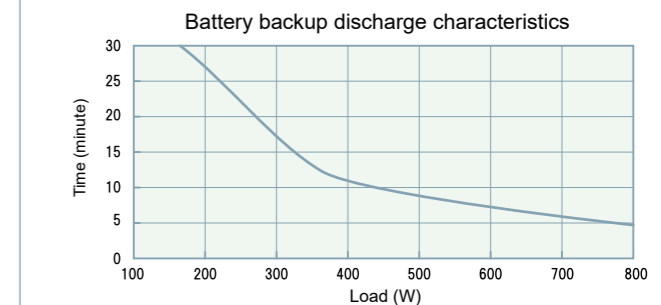
5 inch bay 2-unit, Ni-MH battery pack Ni-MH

BS25A-H350/2.5L



Backup Time
 Load: **370W**
 Time: **12min.**

| | | | |
|------------|---------------------|----------------|---------------------------|
| Capacity | 16.8V DC×3/2.5Ah | Output voltage | 350V DC typ ^{*1} |
| Dimensions | 146(W)×82(H)×200(D) | | |



Applicable power supply
 HNSP4-1000P series P21
 mHNSP4-1000P series P21

Signal harness

WH-06XH06XH-500




Dedicated backup signal harness for HNSP4-1000P/mHNSP4-1000P series and BS25A-H350/2.5L

• The backup time is only for reference at initial use. Not guaranteed.
 • For used-battery recycling, visit our Web site.
 *1 Built-in booster output voltage

• The backup time is only for reference at initial use. Not guaranteed.
 • For used-battery recycling, visit our Web site.
 *1 Built-in booster output voltage

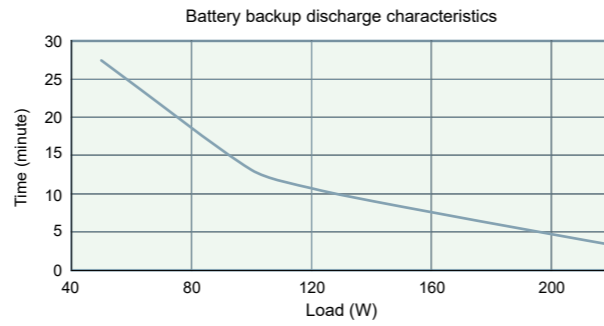
5 inch bay, Ni-MH battery pack Ni-MH

BS28A-H350/2.5L



Backup Time
Load: **100W**
Time: **13min.**

Battery backup discharge characteristics



| Applicable power supply | | |
|-------------------------|--|-----|
| HPCSF-400P-X2B | | P27 |
| HPCFX-350P-X2B | | P37 |
| HPCFL-400P-X2S | | P39 |


| | | | |
|-------------------|---------------------|-----------------------|---------------------------|
| Capacity | 16.8V DC/2.5Ah | Output voltage | 350V DC typ ^{*1} |
| Dimensions | 146(W)×41(H)×200(D) | | |

Harness

| | |
|-----------------|---|
| WH-S1005-500-02 | RS232C communication cable for automatic shutdown at blackout |
| WH-S1005-500-03 | RS232C communication cable for automatic shutdown at blackout |

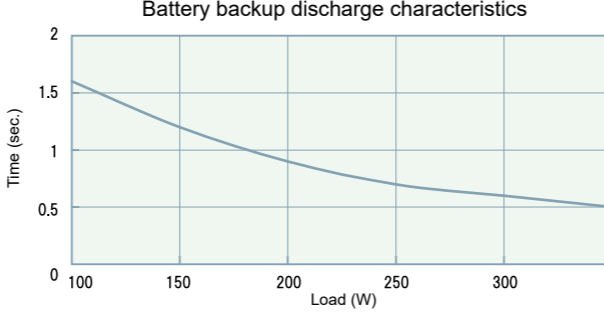
5 inch bay fixed type capacitor pack Capacitor pack

BS13A-EC400/422F



Backup Time
Load: **180W**
Time: **1sec.**

Battery backup discharge characteristics



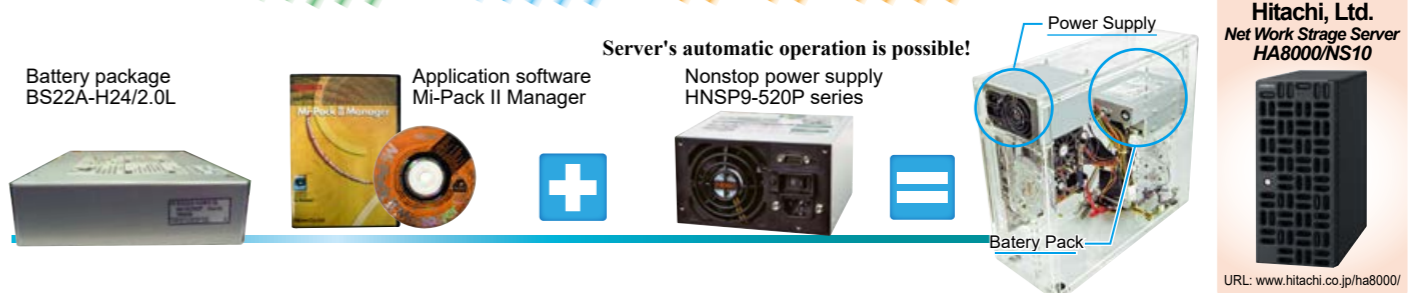
| Applicable power supply | | |
|-------------------------|--|-----|
| eNSP4-500P series | | P24 |

| | | | |
|-------------------|---------------------|-----------------------|---------|
| Capacity | 4200μF | Output voltage | 400V DC |
| Dimensions | 146(W)×38(H)×200(D) | | |

- The backup time is only for reference at initial use. Not guaranteed.
- For used-battery recycling, visit our Web site.
- *1 Built-in booster output voltage

Intelligence Battery Pack "Mi-Pack II"

Display battery **Life span & Condition!** Schedule operation available!



Server's automatic operation is possible!

Using dedicated control software (Mi-Pack II Manager) enable to manage schedules in the PC (automatic start-up/shutdown). Not just specific date, you can also setup the schedule per week. That means, for example, daily start-up/shutdown operation at the work place as personal office if setting schedule by fixed daytime. Automatic operation is also available for production line, monitoring system, and others.

Calculation

Life span based on changes of features

a. Changes of inner resistance
b. Changes of unbalance voltage when discharging

Life span based on use frequency and total time

c. Depth of cycle discharge
d. Total discharge capacity and depth of discharge
e. Ambient temperature
f. Total time after the start of using

Judgment

When difference between default value and present value exceeds the fixed value

Among the values gained by c through f, the one with the smallest value is mainly used to display the remaining time. When the lifetime expires, an alarm is delivered and can be monitored as event information.

Notice

E-mail is delivered to max 5 addresses.

Announce via e-mail through the Internet

E-mail information

- Start/stop monitoring
- Blackout/recovery occurred
- Battery voltage difference prediction
- Inner resistance life span prediction
- Operate blackout shutdown
- Power supply fan abnormality/recovery
- Application registration
- Discharging current abnormality/recovery
- Application start up failure
- Battery pack fan abnormality/recovery
- Operate schedule shutdown
- Battery voltage rise abnormality/recovery
- Life span based on time after the start of using
- Battery voltage decline abnormality/recovery
- Life span based on total discharge capacity
- Battery temperature rise abnormality/recovery
- Life span based on ambient temperature
- Charging current abnormality

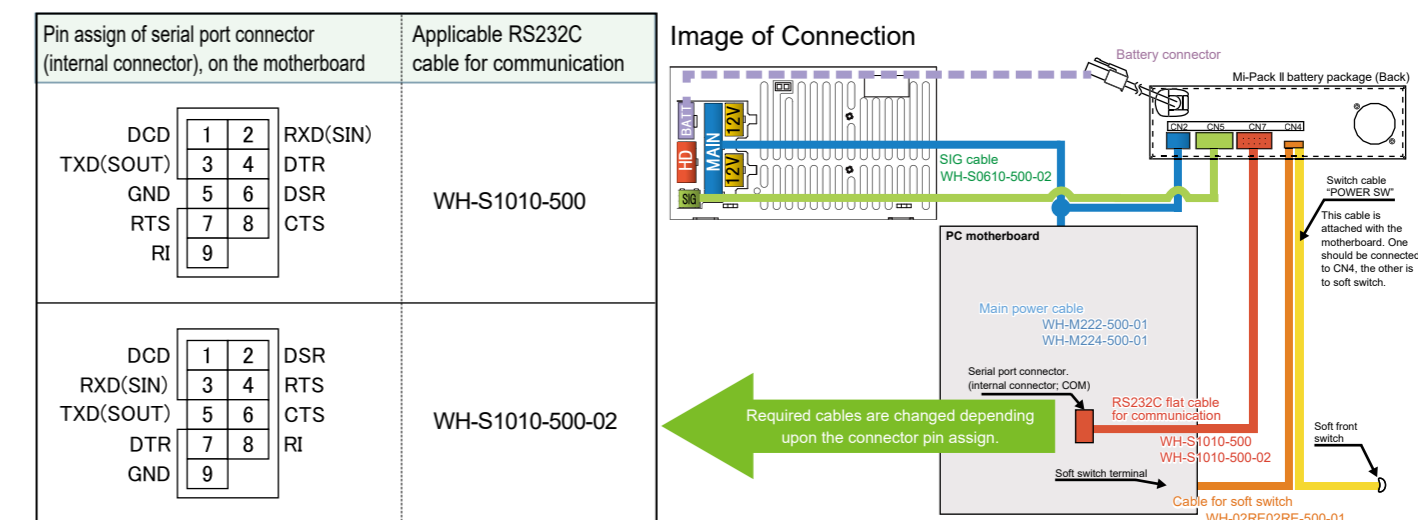
Gives notice for battery's life span, so **periodical replacement of the battery pack will not be needed.** It may possibly be used for **more than 7 years without battery replacement.**

How to connect

Intelligence battery packs are different from the existing battery models. This is not only being charged and discharged, but also sending a send-and-receive signal. Please check and select the cables from the list below. You may need a dedicated cable depending what motherboard and power supply you choose.

| Model | Type | Description | |
|--------------------|-------------------------------------|--|-------|
| WH-M222-500-01 | Main power cable (20+4-Pin) | Connect to CN2, for HNSP9 series | 1 pc. |
| WH-M224-500-01 | Main power cable (20+4-Pin) | Connect to CN2, for eNSP3/mNSP3 series | |
| WH-S0610-500-02 | SIG cable | Connect to CN5 and the other goes to SIG connector of power supply | 1 pc. |
| WH-S1010-500* | RS232C flat cable for communication | Connect to CN7 and the other goes to serial port connector (internal connector; COM) | 1 pc. |
| WH-S1010-500-02* | RS232C flat cable for communication | | |
| WH-02RE02RE-500-01 | Cable for soft switch | Connect to CN4 and goes to soft switch terminal of M/B | 1 pc. |

* Please select the cable complying with the pin assign of serial port connector (internal connector) for the motherboard. See below.



* Please confirm the details of pin assign by the manual of motherboard.

Removable output harness listing

| MAIN | | HD | |
|---|---------------|--|---|
| This port has a connector (20-pin or 24-pin) for the motherboard and removable harness is connected to. | | This port has a connector for peripheral devices such as HDD and FDD and removable harness is connected to. | |
| WH-M2424-500 | 500±15 24-pin | WH-PP610-850 | Peripheral connector×5 FDD connector×1 |
| WH-M2422-500 | 500±15 24-pin | WH-PS610-850 | Peripheral connector×3 FDD connector×1 SATA connector×2 |
| WH-M2420-400 | 400±15 24-pin | WH-PS710-850 | Peripheral connector×2 FDD connector×1 SATA connector×4 |
| WH6113-12 | 400±10 24-pin | WH-PS810-1000 | Peripheral connector×1 SATA connector×7 |
| WH-M2024-500 | 500±15 20-pin | WH-PV404-600 | Peripheral connector×2 FDD connector×1 +12V 4-pin connector×1 |
| WH-M2022-500 | 500±10 20-pin | WH-PV612-600 | Peripheral connector×4 FDD connector×1 +12V 4-pin connector×1 |
| WH-M2022-300 | 300±10 20-pin | | |
| WH-M2022-500-01 | 500±10 20-pin | | |
| WH-M2020-400 | 400±15 20-pin | | |
| WH-M2020-192 | 192±10 20-pin | | |
| WH6113-13 | 400±10 20-pin | | |
| SIG | | 12V | |
| This port has a connector for signals such as signals for Nonstop power supply and Fan signals and removable harness is connected to. | | This port has a connector for 12V output such as +12V connector (4-Pin), processor connector (8-Pin), PCI-E connector and removable harness is connected to. | |
| WH-S0610-500 | 500±15 6-pin | WH-V0404-500 | +12V 4-pin connector |
| WH-S0610-500-01 | 500±15 6-pin | WH-V0408-500 | +12V 8-pin connector |
| WH-S0603-500 | 500±15 6-pin | WH-V0804-500 | +12V 4-pin connector |
| WH-S0310-500 | 500±15 3-pin | WH-V0808-500 | 6-pin PCI-E connector |
| WH-S0303-500 | 500±15 3-pin | WH-VG208-500 | +12V 8-pin connector×2 |
| WH-S1616-500 | 500±15 16-pin | WH-VG208-500-02 | +12V 8-pin connector 6-pin PCI-E connector |
| WH-S1004-500 | 500±20 10-pin | WH-G0808-500 | 6+2-pin PCI-E connector |
| WH-S1004-500-01 | 500±20 10-pin | WH-GG208-500 | 6-pin PCI-E connector 6+2-pin PCI-E connector |
| WH-12PAD12PAD-500 | 500±10 12-pin | WH-GG208-500-02 | 6+2-pin PCI-E connector 6+2-pin PCI-E connector |

* Most motherboards need to be customized for the use of SIG connector.

Power supplies with output connectors need optional harnesses. Please select output harnesses from P.49 to P.52, harness list.

< Set of removable output harnesses > A set of harnesses consisting of removable output harnesses is here.

| | | | |
|---------------|--------------------|--------------------|---------------------|
| Model:WHS2828 | WH-M2024-500:1 pc. | WH-M2424-500:1 pc. | WH-V0808-500:1 pc. |
| | WH-VG208-500:1 pc. | WH-PP610-850:1 pc. | WH-PS610-850:2 pcs. |

Cable

| Picture | Model | Type | Description |
|---------|-----------|----------------------------|--|
| | WH2601-02 | RS232C communication cable | Cable for serial communication To be used for shutdown communication between Nonstop power supply* and PC. For Windows 2000/XP/Vista/7/10 Harness length: 500mm *Nonstop power supply equipped with RS232C function. |
| | WH2967 | USB communication cable | Cable for serial communication To be used for shutdown communication between Nonstop power supply* and PC. Harness length: 500mm *Nonstop power supply equipped with USB function. *The dedicated driver software needs to be installed on your computer. |
| | WH2753-02 | AC power cord | 125VAC 12A [PSE] |
| | WH6167-02 | AC power cord | 125VAC 15A [PSE] |
| | WH6216-01 | AC power cord | 125VAC 15A [PSE] * AC power cord for HPCSA-1500P-E2S |

Software

| Picture | Model | Type | Description |
|---------|----------------------|------------------------------------|---|
| | NSP Pro 2 (CD Media) | Automatic shutdown software | Automatic shutdown software For Windows 2000/XP/Vista/7/10 *Free software "NSP Pro 2" available at our web-site. |
| | Mi-Pack II manager | Intelligence battery pack software | Intelligence battery pack software For Windows 2000/XP/Vista/7 Windows Server 2003R2 /2008 /2008 Server Core /2008R2 /2008R2 Server Core |

Description of harness list

The power supply model names that suit with the port position and harness written at the right column and their detail pages.

Port position for the left power supply. Removable output harnesses are to be connected to the ports shown in the drawing.

| Power supply model | Details | Model name of removable output harness | | | |
|--------------------|---------|--|---------------|-----------------|-----------------|
| | | MAIN | HD | 12V | SIG |
| HPCSA-1000P-E2S | P29 | WH-M2422-500 | WH-PP610-850 | WH-V0808-500 | WH-S0610-500 |
| | | WH-M2022-500 | WH-PS610-850 | WH-V0408-500 | WH-S0610-500-01 |
| | | WH-M2022-300 | WH-PS710-850 | WH-VG208-500 | WH-S0310-500 |
| | | | WH-PS810-1000 | WH-VV208-500-02 | |
| | | | | WH-VG208-500-02 | |
| | | | | WH-G0808-500 | |
| | | | | WH-GG208-500 | |

Acceptable cable(s) 1 pc. 2 pcs. 3 pcs. 1 pc.

The maximum number of each connectable harnesses for a power supply.

The harnesses that fit for power supplies and their list. (Refer to P.47 "Removable output harness listing" for the details of connector)

Harness listing

| Power supply model | Details | Port allocation | Model name of removable output harness | | | |
|---------------------|---------|-----------------|--|---|--|---|
| | | | MAIN | HD | 12V | SIG |
| HPCSA-1500P-E2S | P29 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| HPCSA-1000P-E2S | P29 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| HNSP4-1000P series | P21 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| mHNSP4-1000P series | P21 | | | | | B-SIG WH-06XH06XH-500 |
| HPCSA-700P-E2S | P30 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |

| Power supply model | Details | Port allocation | Model name of removable output harness | | | |
|---|---------|-----------------|--|---|--|---|
| | | | MAIN | HD | 12V | SIG |
| HNSP9-520P series | P22 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| HNSP9-520P series (24V / 48V output unit) | P22,23 | | | | | |
| HPCSA-570P-X2S | P31 | | | | | |
| HPCSA-570P-X2S (24V / 48V output unit) | P31 | | | | | |
| eNSP3-450P series | P23 | | WH-M2424-500 WH-M2024-500 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| mNSP3-450P series | P24 | | | | | |
| eNSP4-500P series | P24 | | | | | |
| ePCSA-500P-X2S | P32 | | | | | |
| mPCSA-500P-X2S | P32 | | | | | |
| HPCSF-400P-X2B | P27 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| HPCSF-400P-X2S1 | P35 | | | | | |
| mHPCSF-400P-X2S1 | P35 | | | | | |
| HNSP5-350P series | P25 | | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | |
| PCSF-350P-X2S1 | P35 | | WH-M2424-500 WH-M2024-500 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | WH-S0603-500 WH-S0303-500 |

Battery Packs & Options(Power Supply for PC)

| Power supply model | Details | Port allocation <i>Removable output harnesses are to be connected to the ports shown in the drawing below.</i> | Model name of removable output harness | | | |
|--------------------|---------|---|--|---|--|---|
| | | | MAIN | HD | 12V | SIG |
| HPC1U-400P-X2S | P38 | <p>Acceptable cable(s) MAIN 1 pc. HD 1 pc. 12V 1 pc. SIG 1 pc.</p> | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | WH-S0610-500 WH-S0610-500-01 WH-S0310-500 |
| HPCFX-350P-X2B | P37 | <p>Acceptable cable(s) MAIN 0 pc. HD 1 pc. 12V 1 pc. SIG 1 pc.</p> | MAIN connector (20+4 pin) is directly connected with the power supply. | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0804-500 WH-V0404-500 | Consult us about SIG harness. |
| HPCFX-350P-X2S | P38 | | | | | |

| Power supply model | Details | Port allocation <i>Removable output harnesses are to be connected to the ports shown in the drawing below.</i> | Model name of removable output harness | | | |
|--------------------|---------|---|--|---|--|---|
| | | | MAIN | HD | 12V | SIG |
| HPCFL-400P-X2S | P39 | <p>Acceptable cable(s) MAIN 1 pc. HD 1 pc. 12V 1 pc. SIG 0 pc.</p> | WH-M2422-500 WH-M2022-500 WH-M2022-300 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | |
| PCFL-180P series | P39 | <p>Acceptable cable(s) MAIN 1 pc. HD 1 pc. 12V 0 pc. SIG 0 pc.</p> | WH-M2422-500 WH-M2022-500 WH-M2022-300 WH-M2022-500-01* | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-S1004-500* WH-S1004-500-01* | *To be connected to battery package (BS17A-H24/2.0L) *Connectable only to PCFL-180P-X2S2 and PCFD-180P-X2S |
| PCFD-180P-X2S | P40 | | | | | |
| pNSP2U-1000P-AAS | P41 | <p>Acceptable cable(s) MAIN 1 pc. HD 1 pc. 12V 3 pcs. SIG 1 pc.</p> | WH-M2424-500 WH-M2024-500 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 WH-G0808-500 WH-GG208-500 | WH-S1616-500 |
| pNSP2U-550P-AAS | P41 | <p>Acceptable cable(s) MAIN 1 pc. HD 1 pc. 12V 1 pc. SIG 1 pc.</p> | WH-M2424-500 WH-M2024-500 | WH-PP610-850 WH-PS610-850 WH-PS710-850 WH-PS810-1000 | WH-V0808-500 WH-V0408-500 WH-VG208-500 WH-VV208-500-02 WH-VG208-500-02 | WH-S1616-500 |
| pNSP2U-330P-A2A2S | P41 | | | | | |

Power Supply for Desktop PCs with UPS function

Power Supply for Desktop PCs

Power Supply for System Rack

Option (Power Supply for PC)

Single / Multi out-put power supply

Option (Single / Multi out-put power supply)

Power Supply for Desktop PCs with UPS function

Power Supply for Desktop PCs

Power Supply for System Rack

Option (Power Supply for PC)

Single / Multi out-put power supply

Option (Single / Multi out-put power supply)

Ultra-small size/high-efficiency single output power supply AC-DC Single Output

FZP-040 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|----------------|----------------|----------------|----------------|
| Open frame | Nylon connector | FZP-040-5-J** | +5V | FZP-040-24-J** | +24V |
| | | FZP-040-12-J** | +12V | | |
| | | FZP-040-15-J** | +15V | | |

Function

| Model | output voltage control VR | Batt. connector |
|----------------|---------------------------|-----------------|
| FZP-040-**-JBH | ○ | ○ |
| FZP-040-**-J0L | × | × |

| Output voltage | +5V | +12V | +15V | +24V |
|--------------------------------------|----------|--------------|------------|--------------|
| Max. current/ Max. power(Continuous) | 6A / 30W | 3.3A / 39.6W | 2.6A / 39W | 1.6A / 38.4W |
| Peak current/ Peak power | 8A / 40W | 5A / 60W | 4A / 60W | 2.5A / 60W |
| Min. load | 0A | 0A | 0A | 0A |

Size: 50(W)×26(H)×87.5(D) Open Frame
Input: 85*1-264V AC (Worldwide range)

Dedicated capacitor units*2 (Type JBH)
CB03B-EC400/801F Capacitor unit P75

Continuous max. 30-39.6W, Peak 40-60W

*1 Refer to product specifications for details as derating is required.
*2 Need separately sold dedicated harness

AC-DC single output power supply in 120W type, 12V and 24V output type are available for backup function operated at blackout

OZP-120 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2007 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Backup function equipped |
|------------|-----------------------|----------------|----------------|--------------------------|
| Open frame | Nylon connector | OZP-120-12-JB0 | +12V | ○ |
| | | OZP-120-24-JB0 | +24V | ○ |

*Selectable output voltage

Shape

| Shape | With Chassis | With Chassis and Cover |
|-------|---|---|
| | '-C' is added after Open frame model name. (ex. OZP-120-12-JB0-C) | '-K' is added after Open frame model name. (ex. OZP-120-12-JB0-K) |

Input/Output terminal

| Input/Output terminal | Screw terminal block | European terminal |
|-----------------------|--|--|
| | '-T' from 'J' of Nylon connector model. (ex. OZP-120-12-TB0) | '-E' from 'J' of Nylon connector model. (ex. OZP-120-12-EB0) |

| Output voltage | +12V | +24V |
|---------------------------------------|--|----------------------------|
| Max. current/ Max. power (Continuous) | At convection cooling: 10A / 120W At forced air cooling: 12.5A / 150W | 5A / 120W 6.3A / 151.2W |
| Peak current/ Peak power | 15A / 180W | 9A / 216W |
| Min. load | 0A | 0A |

Continuous max. 120W, At convection cooling 150-151.2W, At forced air cooling 180-216W, Peak

Size: 73(W)×35(H)×180(D) Open Frame
83(W)×43(H)×210(D) With Chassis
83(W)×45(H)×210(D) With Chassis and Cover
Input: 85*1-264V AC (Worldwide range)

Applicable battery packs*2

| Battery Pack | Output Voltage | Notes | Part No. |
|----------------|----------------|---|----------|
| BS14A-H24/2.5L | 24V | 1U/3U size fixed type, Ni-MH battery (For 24V output) | P73 |
| BS24A-H12/2.0L | 12V | 3.5 inch bay fixed type, Ni-MH battery (For 12V output) | P73 |

AC-DC single output power supply in 170W type, 24V output type is available for backup function operated at blackout

OZP-170 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2007 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Backup function equipped |
|------------|-----------------------|----------------|----------------|--------------------------|
| Open frame | Nylon connector | OZP-170-24-JB0 | +24V | ○ |

*Selectable output voltage

Shape

| Shape | With Chassis | With Chassis and Cover |
|-------|---|---|
| | '-C' is added after Open frame model name. (ex. OZP-170-24-JB0-C) | '-K' is added after Open frame model name. (ex. OZP-170-24-EB0-K) |

Input/Output terminal

| Input/Output terminal | Screw terminal block | European terminal |
|-----------------------|--|--|
| | '-T' from 'J' of Nylon connector model. (ex. OZP-170-24-TB0) | '-E' from 'J' of Nylon connector model. (ex. OZP-170-24-EB0) |

| Output voltage | +24V |
|---------------------------------------|--|
| Max. current/ Max. power (Continuous) | At convection cooling: 7A / 168W At forced air cooling: 8.8A / 211.2W |
| Peak current/ Peak power | 12.5A / 300W |
| Min. load | 0A |

Continuous max. 168W, At convection cooling 211.2W, At forced air cooling 300W, Peak

Size: 73(W)×40(H)×222(D) Open Frame
83(W)×49(H)×252(D) With Chassis
83(W)×51(H)×252(D) With Chassis and Cover
Input: 85*1-264V AC (Worldwide range)

Applicable battery packs*2

| Battery Pack | Output Voltage | Notes | Part No. |
|----------------|----------------|---|----------|
| BS14A-H24/2.5L | 24V | 1U/3U size fixed type, Ni-MH battery (For 24V output) | P73 |

*1 Refer to product specifications for details as derating is required.
*2 Need separately sold dedicated harness

High efficiency and low standby power consumption, parallel operation available single output power supply AC-DC Single Output

OZP-200-E Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|----------------|----------------|
| Open frame | Nylon connector | OZP-200-3R3-JSE | +3.3V | OZP-200-24-JSE | +24V |
| | | OZP-200-5-JSE | +5V | OZP-200-36-JSE | +36V |
| | | OZP-200-12-JSE | +12V | OZP-200-48-JSE | +48V |
| | | OZP-200-15-JSE | +15V | | |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. OZP-200-3R3-JSE-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. OZP-200-3R3-JSE-K)
- Input/Output terminal
- Screw terminal block: '-T' from 'J' of Nylon connector model. (ex. OZP-200-3R3-TSE)

| Output voltage | +3.3V | +5V | +12V | +15V | +24V | +36V | +48V |
|---------------------------------------|-------------|-------------|-----------------|-----------------|-----------------|-----------------|----------------|
| Max. current/Max. power (Continuous) | 40A 132W | 40A 200W | 16.7A 200.4W | 13.4A 201W | 8.4A 201.6W | 5.6A 201.6W | 4.2A 201.6W |
| At convection cooling | 46A | 46A | 20A | 16A | 10A | 6.7A | 5A |
| At forced air cooling | 151.8W | 230W | 240W | 240W | 240W | 241.2W | 240W |
| Peak current/ Peak power (10sec. max) | 60A 198W | 60A 300W | 33.4A 400.8W | 26.7A 400.5W | 16.7A 400.8W | 11.2A 403.2W | 8.4A 403.2W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A |

Continuous max. 132-201.6W
At convection cooling 151.8-241.2W
At forced air cooling 198-403.2W
Peak

The dedicated capacitor packs/auxiliary power supplying plate*2

| Model | Capacitor unit | Output |
|---------------------------|--|--------|
| BS13A-EC400/422F | 5 inch bay fixed type, capacitor pack | P74 |
| CB03A-EC400/801F | Capacitor unit | P75 |
| PS-10WP-5VSB ³ | With auxiliary power supplying plate, +5V output available | P76 |

Size: 73(W)×41(H)×222(D) Open Frame
83(W)×49(H)×252(D) With Chassis
83(W)×51(H)×252(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

Ultra-high efficiency 95% typ! Various optional functions, and parallel operation available 350W AC-DC single output power supply AC-DC Single Output

OZP-350 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|----------------|----------------|----------------|----------------|
| Open frame | Nylon connector | OZP-350-12-JSE | +12V | OZP-350-30-JSE | +30V |
| | | OZP-350-15-JSE | +15V | OZP-350-36-JSE | +36V |
| | | OZP-350-24-JSE | +24V | OZP-350-48-JSE | +48V |
| | | | | | |

Models scheduled to be added to the product line-up

- DC input type HV type: 140-370V DC input, LV type: 40-140V DC input (Please ask us for more details.)

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. OZP-350-12-JSE-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. OZP-350-12-JSE-K)
- Input/Output terminal
- Screw terminal block: '-T' from 'J' of Nylon connector model. (ex. OZP-350-12-TSE)

| Output voltage | +12V | +15V | +24V | +30V | +36V | +48V |
|---------------------------------------|-------------|-------------|-----------------|---------------|----------------|----------------|
| Max. current/Max. power (Continuous) | 25A 300W | 20A 300W | 14.6A 350.4W | 11.7A 351W | 9.8A 352.8W | 7.3A 350.4W |
| At convection cooling | 36A | 29A | 21A | 16.8A | 14A | 10.5A |
| At forced air cooling | 432W | 435W | 504W | 504W | 504W | 504W |
| Peak current/ Peak power (10sec. max) | 42A 504W | 40A 600W | 25A 600W | 20A 600W | 16.7A 601W | 12.5A 600W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

Continuous max. 300-352.8W
At convection cooling 432-504W
At forced air cooling 504-601W
Peak

The dedicated capacitor packs/auxiliary power supplying plate*2

| Model | Capacitor unit | Output |
|---|--|--------|
| BS13A-EC400/422F | 5 inch bay fixed type, capacitor pack | P74 |
| CB01A-EC400 series ³ | Capacitor unit | P74 |
| PS-10WP-5VSB / PS-10WP-12VSB ⁴ | With auxiliary power supplying plate, +5V or +12V output available | P76 |

Size: 95(W)×47(H)×222(D) Open Frame
107(W)×55(H)×252(D) With Chassis
107(W)×57(H)×252(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness
*3 Choose OZP-350 *SEB series for using CB01A-EC400 series
*4 Need separately sold dedicated harness(WH-C02XA-500, WH-03XH03XH-115)

Single output power supply with high peak power, optimum for motor load AC-DC Single Output

OZP-240/600P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2019 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage |
|------------|-----------------------|----------------------|----------------|
| Open frame | Nylon connector | OZP-240/600P-*24-JSE | +24V |
| | | OZP-240/600P-*48-JSE | +48V |

| Output voltage | +24V | +48V |
|---------------------------------------|-----------------|----------------|
| Max. current/Max. power (continuous) | 8.4A 201.6W | 4.2A 201.6W |
| At 100V AC input | | |
| Max. current/Max. power (continuous) | 10A 240W | 5A 240W |
| At 200V AC input | | |
| Peak current/ Peak power (within 5 s) | 16.7A 400.8W | 8.4A 403.2W |
| At 100V AC input | | |
| Peak current/ Peak power (within 5 s) | 25A 600W | 12.5A 600W |
| At 200V AC input | | |
| Min. load | 0A | 0A |

Continuous max. 201.6-240W
Peak 400.8-600W

Size: 73(W)×41(H)×222(D) Open Frame

Input: 85*1-264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness
*3 Need separately sold dedicated harness(WH-C02XA-500, WH-03XH03XH-115)

High efficiency / compact type AC-DC single output power supply

AC-DC Single Output

UZP-120 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2016 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage |
|------------|-----------------------|----------------|----------------|
| Open frame | Nylon connector | UZP-120-12-J** | +12V |
| | | UZP-120-24-J** | +24V |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. UZP-120-12-JB0-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. UZP-120-12-JB0-K)

Function

| Model | Remote ON/OFF | Output voltage control VR | Batt. connector | Synchronous rectification |
|-----------------|---------------|---------------------------|-----------------|---------------------------|
| UZP-120-***-JBH | ○ | ○ | ○ | ○ |
| UZP-120-***-JB0 | ○ | ○ | ○ | × |
| UZP-120-***-J0L | × | × | × | × |

UZP-120-***-JB0 / UZP-120-***-J0L

| Output voltage | +12V | +24V |
|--------------------------------------|-----------------------|-----------------------|
| Max. current/Max. power (Continuous) | 8.4A / 100.8W | 5A / 120W |
| | At convection cooling | At forced air cooling |
| | 13.5A / 162W | 6.75A / 162W |
| Peak current/Peak power (10sec. max) | 16.7A / 200.4W | 8.4A / 201.6W |
| Min. load | 0A | 0A |

UZP-120-***-JBH

| Output voltage | +12V | +24V |
|--------------------------------------|-----------------------|-----------------------|
| Max. current/Max. power (Continuous) | 10A / 120W | 5A / 120W |
| | At convection cooling | At forced air cooling |
| | 13.5A / 162W | 6.75A / 162W |
| Peak current/Peak power (10sec. max) | 16.7A / 200.4W | 8.4A / 201.6W |
| Min. load | 0A | 0A |

The dedicated capacitor packs/battery packs*2 (Type JBH/JB0)

| Model | Description | Part No. |
|------------------|--|----------|
| BS13A-EC400/422F | 5 inch bay fixed type, capacitor pack | P74 |
| CB03A-EC400/801F | Capacitor unit | P75 |
| BS27A-P350/12V | Charging/discharging board for lead-acid battery | P73 |
| BS28A-H350/2.5L | Ni-MH battery | P74 |

Size: 62(W)×27(H)×155(D) Open Frame
71(W)×38.8(H)×185(D) With Chassis
72(W)×38.8(H)×185(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

Continuous max. At convection cooling: 100.8-120W
At forced air cooling: 162W
Peak: 200.4-201.6W

High efficiency / compact advanced type AC-DC single output power supply

AC-DC Single Output

UZP-220 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2013 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|----------------|----------------|----------------|----------------|
| Open frame | Nylon connector | UZP-220-12-JBE | +12V | UZP-220-48-JBE | +48V |
| | | UZP-220-18-JBE | +18V | | |
| | | UZP-220-24-JBE | +24V | | |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. UZP-220-12-JBE-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. UZP-220-12-JBE-K)

Input/Output terminal

- Screw terminal block: '-T' from 'J' of Nylon connector model. (ex. UZP-220-12-TBE)

| Output voltage | +12V | +18V | +24V | +48V |
|--------------------------------------|-----------------------|-----------------------|----------------|----------------|
| Max. current/Max. power (Continuous) | 15A / 180W | 10A / 180W | 9.2A / 220.8W | 4.6A / 220.8W |
| | At convection cooling | At forced air cooling | | |
| | 21A / 252W | 14A / 252W | 13.8A / 331.2W | 6.9A / 331.2W |
| Peak current/Peak power (10sec. max) | 33.4A / 400.8W | 22.3A / 401.4W | 16.7A / 400.8W | 8.35A / 400.8W |
| Min. load | 0A | 0A | 0A | 0A |

Continuous max. At convection cooling: 180-220.8W
At forced air cooling: 252-331.2W
Peak: 400.8-401.4W

The dedicated capacitor packs/battery packs*2

| Model | Description | Part No. |
|------------------|--|----------|
| BS13A-EC400/422F | 5 inch bay fixed type, capacitor pack | P74 |
| CB03A-EC400/801F | Capacitor unit | P75 |
| BS27A-P350/12V | Charging/discharging board for lead-acid battery | P73 |
| BS28A-H350/2.5L | Ni-MH battery | P74 |

Size: 75(W)×36(H)×160(D) Open Frame
83(W)×43(H)×188(D) With Chassis
83.8(W)×45(H)×188(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

UZP-150/220 series with option (Please ask us for more details.)

| Photo | Model | Type | Description |
|-------|----------------------|--|--|
| | UZP-***-**/5VS-***E | UZP series with standby power supply units | Model with 5V,12V standby output function compact/ high efficiency / low cost by rectifying bridgeless/ filterless structure |
| | UZP-***-**/161F-***E | UZP series with capacitor backup unit | UZP series model with backup against momentary power failure Hold-up time: approx.80m sec(Load: 130W) |

High efficiency / compact economy type AC-DC single output power supply

AC-DC Single Output

UZP-150 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2013 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|----------------|----------------|----------------|----------------|
| Open frame | Nylon connector | UZP-150-12-J0E | +12V | UZP-150-48-J0E | +48V |
| | | UZP-150-18-J0E | +18V | | |
| | | UZP-150-24-J0E | +24V | | |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. UZP-150-12-J0E-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. UZP-150-12-J0E-K)

Input/Output terminal

- Screw terminal block: '-T' from 'J' of Nylon connector model. (ex. UZP-150-12-T0E)

| Output voltage | +12V | +18V | +24V | +48V |
|--------------------------------------|-----------------------|-----------------------|----------------|----------------|
| Max. current/Max. power (Continuous) | 12.5A / 150W | 8.4A / 151.2W | 6.3A / 151.2W | 3.2A / 153.6W |
| | At convection cooling | At forced air cooling | | |
| | 21A / 252W | 14A / 252W | 11.3A / 271.2W | 5.7A / 273.6W |
| Peak current/Peak power (10sec. max) | 33.4A / 400.8W | 22.3A / 401.4W | 16.7A / 400.8W | 8.35A / 400.8W |
| Min. load | 0A | 0A | 0A | 0A |

Continuous max. At convection cooling: 150-153.6W
At forced air cooling: 252-273.6W
Peak: 400.8-401.4W

Size: 75(W)×35(H)×160(D) Open Frame
83(W)×43(H)×188(D) With Chassis
83.8(W)×45(H)×188(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

High efficiency / smaller size with larger capacity AC-DC single output power supply

AC-DC Single Output

UZP-400 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | UZP-400-A12-JBH | +12V | UZP-400-A48-JBH | +48V |
| | | UZP-400-A24-JBH | +24V | | |
| | | UZP-400-A36-JBH | +36V | | |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. UZP-400-A12-JBE-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. UZP-400-A12-JBE-K)

| Output voltage | +12V | +24V | +36V | +48V |
|--------------------------------------|----------------|----------------|----------------|---------------|
| Max. current/Max. power (Continuous) | 26.7A / 320.4W | 16.8A / 403.2W | 11.2A / 403.2W | 8.4A / 403.2W |
| Peak current/Peak power (10sec. max) | 42A / 504W | 25A / 600W | 16.7A / 601.2W | 12.5A / 600W |
| Min. load | 0A | 0A | 0A | 0A |

Continuous max. At convection cooling: 320.4-504W
Peak: 504-601.2W

The dedicated capacitor units/battery packs*2

| Model | Description | Part No. |
|------------------|----------------|----------|
| CB03A-EC400/801F | Capacitor unit | P75 |
| BS28A-H350/2.5L | Ni-MH battery | P74 |

Size: 84(W)×45(H)×180(D) Open Frame
96.2(W)×55.5(H)×212(D) With Chassis
97.2(W)×57.5(H)×212(D) With Chassis and Cover

Input: 85*1-264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness

Ultra high efficiency / smaller size with larger capacity AC-DC single output power supply AC-DC Single Output

UZZP-400/1200P Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|------------------------|----------------|------------------------|----------------|
| Open frame | Nylon connector | UZZP-400/1200P-A24-J0H | +24V | UZZP-400/1200P-A36-J0H | +36V |
| | | UZZP-400/1200P-A30-J0H | +30V | UZZP-400/1200P-A48-J0H | +48V |

Shape

- With Chassis: '-C' is added after Open frame model name. (ex. UZZP-400/1200P-A24-J0H-C)
- With Chassis and Cover: '-K' is added after Open frame model name. (ex. UZZP-400/1200P-A24-J0H-K)

| Output voltage | +24V | +30V | +36V | +48V |
|--|-----------------|---------------|------------------|----------------|
| Max. current/Max. power (Continuous) | 16.8A 403.2W | 13.4A 402W | 11.2A 403.2W | 8.4A 403.2W |
| Peak current/ Peak power (10sec. max) AC200V | 50A 1200W | 40A 1200W | 33.4A 1202.4W | 25A 1200W |
| Min. load | 0A | 0A | 0A | 0A |

Continuous max. 402-403.2W
Peak 1200-1202.4W

| Size | 84(W)×45(H)×180(D) | Open Frame |
|------|------------------------|------------------------|
| | 96.2(W)×55.5(H)×212(D) | With Chassis |
| | 97.5(W)×57.2(H)×212(D) | With Chassis and Cover |

Input: 175-264V AC

Scheduled to certify medical standards, AC-DC single output power supply AC-DC Single Output

mFZZP-040 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

Under development

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|------------------|----------------|------------------|----------------|
| Open frame | Nylon connector | mFZZP-040-5-JBH | +5V | mFZZP-040-24-JBH | +24V |
| | | mFZZP-040-12-JBH | +12V | | |
| | | mFZZP-040-15-JBH | +15V | | |

| Output voltage | +5V | +12V | +15V | +24V |
|--------------------------------------|-----------|---------------|-------------|---------------|
| Max. current/Max. power (Continuous) | 6A 30W | 3.3A 39.6W | 2.6A 39W | 1.6A 38.4W |
| Peak current/ Peak power | 8A 40W | 5A 60W | 4A 60W | 2.5A 60W |
| Min. load | 0A | 0A | 0A | 0A |

Continuous max. 30-39.6W
Peak 40-60W

| Size | 50(W)×26(H)×87.5(D) | Open Frame |
|-------|--------------------------------|------------|
| Input | 85*1-264V AC (Worldwide range) | |

Ultra high efficiency / large capacity AC-DC single output power supply AC-DC Single Output

UZZP-600 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2019 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|--------------|------------------------------|------------------|----------------|------------------|----------------|
| With Chassis | Nylon connector (Horizontal) | UZZP-600-A24-JH0 | +24V | UZZP-600-A36-JH0 | +36V |
| | | UZZP-600-A30-JH0 | +30V | UZZP-600-A48-JH0 | +48V |

Shape

- With cover*2: '-K' is added after With Chassis model name. (ex. UZZP-600-A24-JH0-K)
- With cover, front panel*2,3: '-U' is added after With Chassis model name. (ex. UZZP-600-A24-JH0-U)

Input/Output terminal

- Nylon connector (Vertical): 'JV' from 'JH' of Nylon connector (Horizontal) model. (ex. UZZP-600-A24-JV0)
- Screw terminal block (Horizontal): 'TH' from 'JH' of Nylon connector (Horizontal) model. (ex. UZZP-600-A24-TH0)
- Screw terminal block (Vertical): 'TV' from 'JH' of Nylon connector (Horizontal) model. (ex. UZZP-600-A24-TV0)

| Output voltage | +24V | +30V*2 | +36V*2 | +48V | +12VSB (Common spec) |
|--------------------------------------|-----------------|---------------|------------------|-----------------|----------------------|
| Max. current/Max. power (Continuous) | 25A 600W | 20A 600W | 16.7A 601.2W | 12.5A 600W | 0.42A 5W |
| | 33.4A 801.6W | 26.7A 801W | 22.3A 802.8W | 16.7A 801.6W | 0.42A 5W |
| Peak current/ Peak power (5sec. max) | 50A 1200W | 40A 1200W | 33.4A 1202.4W | 25A 1200W | 0.42A 5W |
| Min. load | 0A | 0A | 0A | 0A | 0A |

Continuous max. 600-801.2W
At convection cooling
801-802.8W
At forced air cooling
Peak 1200-1202.4W

| Size | 127(W)×44(H)×228.6(D) | With Chassis |
|------|-----------------------|----------------------------------|
| | 127(W)×52(H)×233.6(D) | With Chassis and Cover |
| | 127(W)×53(H)×234.6(D) | With chassis, cover, front panel |

Input: 85*1-264V AC (Worldwide range)

Medical standards IEC60601-1 Ed.3.1 certified, AC-DC single output power supply AC-DC Single Output

mFZZP-075 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

Series lineup

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|------------------|----------------|------------------|----------------|
| Open frame | Nylon connector | mFZZP-075-5-JB0 | +5V | mFZZP-075-24-JB0 | +24V |
| | | mFZZP-075-12-JB0 | +12V | | |
| | | mFZZP-075-15-JB0 | +15V | | |

| Output voltage | +5V | +12V | +15V | +24V |
|--------------------------------------|------------|---------------|-------------|---------------|
| Max. current/Max. power (Continuous) | 10A 50W | 6.25A 75W | 5A 75W | 3.13A 75W |
| Peak current/ Peak power | 15A 75W | 12.5A 150W | 10A 150W | 6.25A 150W |
| Min. load | 0A | 0A | 0A | 0A |

Medical Standard IEC60601-1 Ed.3.1 (MOOP, MOPP) certified
Continuous max. 50-75W
Peak 75-150W

| Size | 55(W)×28(H)×133(D) | Open Frame |
|-------|--------------------------------|------------|
| Input | 85*1-264V AC (Worldwide range) | |

The dedicated capacitor pack*2
CB03B-EC400/801F Capacitor unit P75

*1 Refer to product specifications for details as derating is required. *2 Scheduled to certify safety standards. *3 Only for nylon connector (horizontal) type.

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness

Medical standard IEC60601-1 Ed.3 certified, high efficiency and low stand by power 200W AC-DC single output power supply **AC-DC Single Output**

mOZP-200 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

Medical Standard IEC60601-1 Ed.3 (MOOP) certified

Continuous max. At convection cooling: 132-201.6W, At forced air cooling: 151.8-241.2W, Peak: 198-403.2W

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|------------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | mOZP-200-3R3-JSE | +3.3V | mOZP-200-24-JSE | +24V |
| | | mOZP-200-5-JSE | +5V | mOZP-200-36-JSE | +36V |
| | | mOZP-200-12-JSE | +12V | mOZP-200-48-JSE | +48V |
| | | mOZP-200-15-JSE | +15V | | |

| Shape | Model |
|------------------------|---|
| With Chassis | '-C' is added after Open frame model name. (ex. mOZP-200-3R3-JSE-C) |
| With Chassis and Cover | '-K' is added after Open frame model name. (ex. mOZP-200-3R3-JSE-K) |

| Input/Output terminal | Model |
|-----------------------|---|
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mOZP-200-12-TSE) |

| Output voltage | +3.3V | +5V | +12V | +15V | +24V | +36V | +48V |
|--------------------------------------|--------------|------------|----------------|--------------|---------------|----------------|---------------|
| Max. current/Max. power (Continuous) | 40A / 132W | 40A / 200W | 16.7A / 200.4W | 13.4A / 201W | 8.4A / 201.6W | 5.6A / 201.6W | 4.2A / 201.6W |
| Peak current/Peak power (10sec. max) | 46A / 151.8W | 46A / 230W | 33.4A / 240W | 26.7A / 240W | 16.7A / 240W | 11.2A / 241.2W | 8.4A / 240W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A | 0A |

The dedicated capacitor packs/auxiliary power supplying plate*2

| Model | 5 inch bay fixed type, capacitor pack | P74 |
|------------------|---------------------------------------|-----|
| BS13A-EC400/422F | | |

| Model | With auxiliary power supplying plate, +5V output available | P76 |
|----------------|--|-----|
| PS-10WP-5VSB*3 | | |

Size: 73(W)×41(H)×222(D) Open Frame, 83(W)×49(H)×252(D) With Chassis, 83(W)×51(H)×252(D) With Chassis and Cover

Input: 85~264V AC (Worldwide range)

Medical Standard IEC60601-1 Ed.3.1 certified, high efficiency/ compact 120W type AC-DC single output power supply **AC-DC Single Output**

mUZP-120 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2016 Released

Medical Standard IEC60601-1 Ed.3.1 (MOOP) certified

Continuous max. At convection cooling: 100.8-120W, At forced air cooling: 162W, Peak: 200.4-201.6W

| Shape | Input/Output terminal | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|
| Open frame | Nylon connector | mUZP-120-12-J** | +12V |
| | | mUZP-120-24-J** | +24V |

| Shape | Model |
|------------------------|--|
| With Chassis | '-C' is added after Open frame model name. (ex. mUZP-120-12-JB0-C) |
| With Chassis and Cover | '-K' is added after Open frame model name. (ex. mUZP-120-12-JB0-K) |

| Model | Remote ON/OFF | Output voltage control VR | Batt. connector | Synchronous rectification |
|------------------|---------------|---------------------------|-----------------|---------------------------|
| mUZP-120-***-JBH | ○ | ○ | ○ | ○ |
| mUZP-120-***-JB0 | ○ | ○ | ○ | × |
| mUZP-120-***-J0L | × | × | × | × |

| Output voltage | +12V | +24V |
|--------------------------------------|---------------|---------------|
| Max. current/Max. power (Continuous) | 8.4A / 100.8W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A |

mUZP-120-***-JB0 / mUZP-120-***-J0L

| Output voltage | +12V | +24V |
|--------------------------------------|--------------|---------------|
| Max. current/Max. power (Continuous) | 10A / 120W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A |

mUZP-120-***-JBH

| Output voltage | +12V | +24V |
|--------------------------------------|--------------|---------------|
| Max. current/Max. power (Continuous) | 10A / 120W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A |

Size: 62(W)×27(H)×155(D) Open Frame, 71(W)×38.8(H)×185(D) With Chassis, 72(W)×38.8(H)×185(D) With Chassis and Cover

Input: 85~264V AC (Worldwide range)

Medical standard IEC60601-1 Ed.2, Ed.3.1 certified, ultra-high efficiency and low stand by power 350W AC-DC single output power supply **AC-DC Single Output**

mOZP-350 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

Medical Standard IEC60601-1 Ed.2, Ed.3.1 (MOPP) certified

Continuous max. At convection cooling: 300-352.8W, At forced air cooling: 432-504W, Peak: 504-601W

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | mOZP-350-12-JSE | +12V | mOZP-350-30-JSE | +30V |
| | | mOZP-350-15-JSE | +15V | mOZP-350-36-JSE | +36V |
| | | mOZP-350-24-JSE | +24V | mOZP-350-48-JSE | +48V |
| | | | | | |

| Shape | Model |
|------------------------|--|
| With Chassis | '-C' is added after Open frame model name. (ex. mOZP-350-12-JSE-C) |
| With Chassis and Cover | '-K' is added after Open frame model name. (ex. mOZP-350-12-JSE-K) |

| Input/Output terminal | Model |
|-----------------------|---|
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mOZP-350-12-TSE) |

| Output voltage | +12V | +15V | +24V | +30V | +36V | +48V |
|--------------------------------------|------------|------------|----------------|--------------|---------------|---------------|
| Max. current/Max. power (Continuous) | 25A / 300W | 20A / 300W | 14.6A / 350.4W | 11.7A / 351W | 9.8A / 352.8W | 7.3A / 350.4W |
| Peak current/Peak power (10sec. max) | 36A / 432W | 29A / 435W | 21A / 504W | 16.8A / 504W | 14A / 504W | 10.5A / 504W |
| Min. load | 0A | 0A | 0A | 0A | 0A | 0A |

The dedicated capacitor units*2

| Model | Capacitor unit | P75 |
|------------------|----------------|-----|
| CB03A-EC400/801F | | |

Size: 95(W)×47(H)×222(D) Open Frame, 107(W)×55(H)×252(D) With Chassis, 107(W)×57(H)×252(D) With Chassis and Cover

Input: 85~264V AC (Worldwide range)

Medical Standard IEC60601-1 Ed.2, Ed.3.1 certified, high efficiency/ compact 120W type AC-DC single output power supply **AC-DC Single Output**

mUZPT-120 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2016 Released

Medical Standard IEC60601-1 Ed.2, Ed.3.1 (MOOP, MOPP) certified

Continuous max. At convection cooling: 100.5-120W, At forced air cooling: 162W, Peak: 200.4-201.6W

| Shape | Input/Output terminal | Model | Output voltage |
|------------|-----------------------|------------------|----------------|
| Open frame | Nylon connector | mUZPT-120-12-J** | +12V |
| | | mUZPT-120-15-J** | +15V |
| | | mUZPT-120-24-J** | +24V |

| Shape | Model |
|------------------------|---|
| With Chassis | '-C' is added after Open frame model name. (ex. mUZPT-120-12-JB0-C) |
| With Chassis and Cover | '-K' is added after Open frame model name. (ex. mUZPT-120-12-JB0-K) |

| Model | Remote ON/OFF | Output voltage control VR | Batt. connector | Synchronous rectification |
|-------------------|---------------|---------------------------|-----------------|---------------------------|
| mUZPT-120-***-JBH | ○ | ○ | ○ | ○ |
| mUZPT-120-***-JB0 | ○ | ○ | ○ | × |
| mUZPT-120-***-J0L | × | × | × | × |

| Output voltage | +12V | +15V | +24V |
|--------------------------------------|---------------|---------------|---------------|
| Max. current/Max. power (Continuous) | 8.4A / 100.8W | 6.7A / 100.5W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 13.4A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A | 0A |

mUZPT-120-***-JB0 / mUZPT-120-***-J0L

| Output voltage | +12V | +15V | +24V |
|--------------------------------------|--------------|--------------|---------------|
| Max. current/Max. power (Continuous) | 10A / 120W | 8A / 120W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 10.8A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A | 0A |

mUZPT-120-***-JBH

| Output voltage | +12V | +15V | +24V |
|--------------------------------------|--------------|--------------|---------------|
| Max. current/Max. power (Continuous) | 10A / 120W | 8A / 120W | 5A / 120W |
| Peak current/Peak power (10sec. max) | 13.5A / 162W | 13.4A / 162W | 8.4A / 201.6W |
| Min. load | 0A | 0A | 0A |

Size: 62(W)×38(H)×155(D) Open Frame, 71(W)×43(H)×185(D) With Chassis, 72(W)×45(H)×185(D) With Chassis and Cover

Input: 85~264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness *3 Need separately sold dedicated harness(WH-C02XA-500, WH-03XH03XH-115)

*1 Refer to product specifications for details as derating is required.

Medical Standard IEC60601-1 Ed.2, Ed.3.1 certified, high efficiency/ compact 150W type AC-DC single output power supply AC-DC Single Output

mUZP-150 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2014 Released

Medical Standard IEC60601-1 Ed.2, Ed.3.1 (MOOP, MOPP) certified

Continuous max. At convection cooling: 150-153.6W, At forced air cooling: 252-273.6W, Peak: 400.8-401.4W

| Output voltage | +12V | +18V | +24V | +48V |
|---------------------------------------|--------------|---------------|----------------|---------------|
| Max. current/Max. power (Continuous) | 12.5A / 150W | 8.4A / 151.2W | 6.3A / 151.2W | 3.2A / 153.6W |
| Peak current/ Peak power (10sec. max) | 21A / 252W | 14A / 252W | 11.3A / 271.2W | 5.7A / 273.6W |
| Min. load | 0A | 0A | 0A | 0A |

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | mUZP-150-12-J0E | +12V | mUZP-150-48-J0E | +48V |
| | | mUZP-150-18-J0E | +18V | | |
| | | mUZP-150-24-J0E | +24V | | |

| Shape | With Chassis | With Chassis and Cover |
|-----------------------|--|--|
| Shape | '-C' is added after Open frame model name. (ex. mUZP-150-12-J0E-C) | '-K' is added after Open frame model name. (ex. mUZP-150-12-J0E-K) |
| Input/Output terminal | | |
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mUZP-150-12-T0E) | |

| Size | 75(W)×35(H)×160(D) | Open Frame |
|------|----------------------|------------------------|
| | 83(W)×43(H)×188(D) | With Chassis |
| | 83.8(W)×45(H)×188(D) | With Chassis and Cover |

Input: 85~264V AC (Worldwide range)

Medical standards certified, supports high peaks AC-DC single output power supply AC-DC Single Output

mUZP-220/520P-24S05

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released

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

Continuous max. At convection cooling: 220.8W, At forced air cooling: 331.2W, Peak: 520.8W

| Output voltage | +24V | +5VSB |
|--------------------------------------|---------------------------------------|-------------|
| Max. current/Max. power (Continuous) | At convection cooling: 9.2A / 220.8W | 1.5A / 7.5W |
| | Total 220.8W | |
| | At forced air cooling: 13.8A / 331.2W | 1.5A / 7.5W |
| Total 331.2W | | |
| Peak current/ Peak power (5sec. max) | 21.7A / 520.8W | 2A / 10W |
| | Total 520.8W | |
| Min. load | 0A | 0A |

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | mUZP-220-12-JBE | +12V | mUZP-220-48-JBE | +48V |
| | | mUZP-220-18-JBE | +18V | | |
| | | mUZP-220-24-JBE | +24V | | |

| Shape | With Chassis | With Chassis and Cover |
|-----------------------|--|--|
| Shape | '-C' is added after Open frame model name. (ex. mUZP-220-12-JBE-C) | '-K' is added after Open frame model name. (ex. mUZP-220-12-JBE-K) |
| Input/Output terminal | | |
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mUZP-220-12-TBE) | |

| Size | 75(W)×36(H)×160(D) | Open Frame |
|------|----------------------|------------------------|
| | 83(W)×43(H)×188(D) | With Chassis |
| | 83.8(W)×45(H)×188(D) | With Chassis and Cover |

Input: 85~264V AC (Worldwide range)

Medical Standard IEC60601-1 Ed.2, Ed.3.1 certified, high efficiency/ compact 220W type AC-DC single output power supply AC-DC Single Output

mUZP-220 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2014 Released

Medical Standard IEC60601-1 Ed.2, Ed.3.1 (MOOP, MOPP) certified

Continuous max. At convection cooling: 180-220.8W, At forced air cooling: 252-331.2W, Peak: 400.8-401.4W

| Output voltage | +12V | +18V | +24V | +48V |
|---------------------------------------|------------|------------|----------------|---------------|
| Max. current/Max. power (Continuous) | 15A / 180W | 10A / 180W | 9.2A / 220.8W | 4.6A / 220.8W |
| Peak current/ Peak power (10sec. max) | 21A / 252W | 14A / 252W | 13.8A / 331.2W | 6.9A / 331.2W |
| Min. load | 0A | 0A | 0A | 0A |

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-----------------|----------------|-----------------|----------------|
| Open frame | Nylon connector | mUZP-220-12-JBE | +12V | mUZP-220-48-JBE | +48V |
| | | mUZP-220-18-JBE | +18V | | |
| | | mUZP-220-24-JBE | +24V | | |

| Shape | With Chassis | With Chassis and Cover |
|-----------------------|--|--|
| Shape | '-C' is added after Open frame model name. (ex. mUZP-220-12-JBE-C) | '-K' is added after Open frame model name. (ex. mUZP-220-12-JBE-K) |
| Input/Output terminal | | |
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mUZP-220-12-TBE) | |

| Size | 75(W)×36(H)×160(D) | Open Frame |
|------|----------------------|------------------------|
| | 83(W)×43(H)×188(D) | With Chassis |
| | 83.8(W)×45(H)×188(D) | With Chassis and Cover |

Input: 85~264V AC (Worldwide range)

The dedicated capacitor units*2

| CB03A-EC400/801F | Capacitor unit | P75 |
|------------------|----------------|-----|
|------------------|----------------|-----|

Scheduled to certify medical standards, AC-DC single output power supply AC-DC Single Output

mUZP-400 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

Under development

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

Continuous max. At convection cooling: 320.4-403.2W, At forced air cooling: 504-601.2W, Peak: 601.2W

| Output voltage | +12V | +24V | +36V | +48V |
|--------------------------------------|---------------------------------------|----------------|----------------|---------------|
| Max. current/Max. power (Continuous) | At convection cooling: 26.7A / 320.4W | 16.8A / 403.2W | 11.2A / 403.2W | 8.4A / 403.2W |
| | Total 403.2W | | | |
| | At forced air cooling: 42A / 504W | 25A / 600W | 16.7A / 601.2W | 12.5A / 600W |
| Total 601.2W | | | | |
| Min. load | 0A | 0A | 0A | 0A |

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|------------------|----------------|------------------|----------------|
| Open frame | Nylon connector | mUZP-400-A12-JBH | +12V | mUZP-400-A48-JBH | +48V |
| | | mUZP-400-A24-JBH | +24V | | |
| | | mUZP-400-A36-JBH | +36V | | |

| Shape | With Chassis | With Chassis and Cover |
|-----------------------|---|---|
| Shape | '-C' is added after Open frame model name. (ex. mUZP-400-A12-JBH-C) | '-K' is added after Open frame model name. (ex. mUZP-400-A12-JBH-K) |
| Input/Output terminal | | |
| Screw terminal block | '-T' from 'J' of Nylon connector model. (ex. mUZP-400-12-TBE) | |

| Size | 84(W)×45(H)×180(D) | Open Frame |
|------|------------------------|------------------------|
| | 96.2(W)×55.5(H)×212(D) | With Chassis |
| | 97.2(W)×57.5(H)×212(D) | With Chassis and Cover |

Input: 85~264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required.

*1 Refer to product specifications for details as derating is required.

AC-DC 15W multi output power supply (triple output type) AC-DC Multi Output

OZM-015 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

IEC60601-1 Ed.3 compliant

Continuous max. 13.8-17.5W
Peak - W

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|---------------------|-----------------|---------------------|-----------------|
| Open frame | Nylon connector | OZM-015-0512N12-J00 | +5V,+12V,-12V | OZM-015-0515N15-J00 | +5V,+15V,-15V |
| | | OZM-015-0312N12-J00 | +3.3V,+12V,-12V | OZM-015-0315N15-J00 | +3.3V,+15V,-15V |

| Shape | With Chassis | '-C' is added after Open frame model name. (ex. OZM-015-0515N15-J00-C) |
|-------|------------------------|--|
| Shape | With Chassis and Cover | '-K' is added after Open frame model name. (ex. OZM-015-0515N15-J00-K) |

| Model name | 0512N12 | | | 0515N15 | | | 0312N12 | | | 0315N15 | | |
|--------------------|---------|------|------|---------|------|------|---------|------|------|---------|------|------|
| 3 outputs | 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. power | 17.2W | | | 17.5W | | | 13.8W | | | 14.1W | | |
| Min. load | 0A* | 0A | 0A | 0A* | 0A | 0A | 0A* | 0A | 0A | 0A* | 0A | 0A |

*At V1 output 0A, V2 and V3 peak current shall be less than 70%. However if the V1 connected to dynamic load (pulse load), it shall be more than 0.3A.

| Size | 50(W)×28(H)×127(D) | Open Frame |
|-------|------------------------------|------------------------|
| Size | 57(W)×37(H)×147(D) | With Chassis |
| Size | 57(W)×38(H)×147(D) | With Chassis and Cover |
| Input | 85-264V AC (Worldwide range) | |

AC-DC 30W multi output power supply (triple output type) AC-DC Multi Output

OZM-030 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

IEC60601-1 Ed.3 compliant

Continuous max. 29.1-34.5W
Peak - W

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|---------------------|-----------------|---------------------|-----------------|
| Open frame | Nylon connector | OZM-030-0512N12-J00 | +5V,+12V,-12V | OZM-030-0515N15-J00 | +5V,+15V,-15V |
| | | OZM-030-0312N12-J00 | +3.3V,+12V,-12V | OZM-030-0315N15-J00 | +3.3V,+15V,-15V |

| Shape | With Chassis | '-C' is added after Open frame model name. (ex. OZM-030-0515N15-J00-C) |
|-------|------------------------|--|
| Shape | With Chassis and Cover | '-K' is added after Open frame model name. (ex. OZM-030-0515N15-J00-K) |

| Model name | 0512N12 | | | 0515N15 | | | 0312N12 | | | 0315N15 | | |
|--------------------|---------|------|-------|---------|------|-------|---------|------|-------|---------|------|-------|
| 3 outputs | 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. power | 34.2W | | | 34.5W | | | 29.1W | | | 29.4W | | |
| Min. load | 0A* | 0A | 0A | 0A* | 0A | 0A | 0A* | 0A | 0A | 0A* | 0A | 0A |

*At V1 output 0A, V2 and V3 peak current shall be less than 70%. However if the V1 connected to dynamic load (pulse load), it shall be more than 0.3A.

| Size | 65(W)×31.5(H)×140(D) | Open Frame |
|-------|------------------------------|------------------------|
| Size | 72(W)×37(H)×160(D) | With Chassis |
| Size | 72(W)×38(H)×160(D) | With Chassis and Cover |
| Input | 85-264V AC (Worldwide range) | |

AC-DC 30W multi output power supply (dual output type) AC-DC Multi Output

OZM-030 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2012 Released

IEC60601-1 Ed.3 compliant

Continuous max. 36W
Peak - W

| Shape | Input/Output terminal | Model | Output voltage | Model | Output voltage |
|------------|-----------------------|-------------------|----------------|-------------------|----------------|
| Open frame | Nylon connector | OZM-030-12N12-J00 | +12V,-12V | OZM-030-15N15-J00 | +15V,-15V |

| Shape | With Chassis | '-C' is added after Open frame model name. (ex. OZM-030-15N15-J00-C) |
|-------|------------------------|--|
| Shape | With Chassis and Cover | '-K' is added after Open frame model name. (ex. OZM-030-15N15-J00-K) |

| Model name | 12N12 | | 15N15 | |
|--------------------|-------|------|-------|------|
| 2 outputs | 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. power | 36W | | 36W | |
| Min. load | 0A* | 0A | 0A* | 0A |

*At V1 output 0A, V2 and V3 peak current shall be less than 70%. However if the V1 connected to dynamic load (pulse load), it shall be more than 0.3A.

| Size | 55(W)×28(H)×133(D) | Open Frame |
|-------|------------------------------|------------------------|
| Size | 65(W)×35(H)×163(D) | With Chassis |
| Size | 65(W)×36(H)×163(D) | With Chassis and Cover |
| Input | 85-264V AC (Worldwide range) | |

*1 Refer to product specifications for details as derating is required.

AC-DC 360W single output power supply, 24V output available for battery backup AC-DC Single Output

GPSA-360 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2007 Released

Continuous max. 360W
Peak 480-600W

| Model | Output voltage | Blackout backup availability |
|----------------|----------------|------------------------------|
| GPSA-360-12-TP | +12V | — |
| GPSA-360-24-TP | +24V | ○ |

| Output voltage | +12V | +24V | +12VSB (Common spec) |
|--|-------------|-----------------|----------------------|
| Max. current/Max. power (Continuous) | 30A 360W | 15A 360W | 0.3A 3.6W |
| Peak current/ Peak power (5sec. max) 100V AC | 40A 480W | 20.8A 499.2W | 0.3A 3.6W |
| Peak current/ Peak power (5sec. max) 200V AC | 40A 480W | 25A 600W | 0.3A 3.6W |
| Min. load | 0A | 0A | 0A |

| Size | 41(W)×128(H)×230(D) Except for fan guard (+5mm), and screw terminal block (+15mm) |
|--------------------------|--|
| Input | 85*1-264V AC (Worldwide range) |
| Applicable battery packs | BS14A-H24/2.5L 1U/3U size fixed type Ni-MH battery P73 |

AC-DC 600W single output power supply, 24V output available for backup at blackout AC-DC Single Output

GPSA-600 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2010 Released

Continuous max. 600W-601.2W
Peak 960-1440W

| Model | Output voltage | Blackout backup availability |
|-----------------|----------------|------------------------------|
| GPSA-600-12P-TP | +12V | — |
| GPSA-600-24P-TP | +24V | ○ |
| GPSA-600-36P-TP | +36V | — |
| GPSA-600-48P-TP | +48V | — |

| Output voltage | +12V | +24V | +36V | +48V | +12VSB (Common spec) |
|--|---------------|--------------|------------------|---------------|------------------------|
| Max. current/Max. power (Continuous) | 50A 600W | 25A 600W | 16.7A 601.2W | 12.5A 600W | 0.5A(0.3A) 6W(3.6W) |
| Peak current/ Peak power (5sec. max) 100V AC | 80A 960W | 50A 1200W | 33.3A 1198.8W | 25A 1200W | 0.5A(0.3A) 6W(3.6W) |
| Peak current/ Peak power (5sec. max) 200V AC | 100A 1200W | 60A 1440W | 40A 1440W | 30A 1440W | 0.5A(0.3A) 6W(3.6W) |
| Min. load | 0A | 0A | 0A | 0A | 0A |

*Inside of () is at backup operation

| Size | 61(W)×128(H)×240(D) Except for fan guard (+5mm), and screw terminal block (+15mm) |
|--------------------------|--|
| Input | 85*1-264V AC (Worldwide range) |
| Applicable battery packs | BS14A-H24/2.5L 1U/3U size fixed type Ni-MH battery P73 |

Series lineup: GPSD38-700-54 200-500V DC input available *For detail specification, please contact us

AC-DC 1000W, compact and large capacity AC-DC Single Output

GPSA-1000 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2016 Released

Continuous max. 907.2-1008W
Peak 1188-2016W

| Model | Output voltage | Air blow direction |
|-------------------|----------------|--------------------|
| GPSA-1000-24P-TES | +24V | Blow out |
| GPSA-1000-24P-TIS | +24V | Blow in |
| GPSA-1000-48P-TES | +48V | Blow out |
| GPSA-1000-48P-TIS | +48V | Blow in |

| Output voltage | +24V | +48V | +12VSB (Common spec) |
|---|-----------------|-----------------|----------------------|
| Max. current/Max. power (Continuous) 100V AC | 37.8A 907.2W | 18.9A 907.2W | 0.5A 6W |
| Max. current/Max. power (Continuous) 115V AC min. | 42A 1008W | 21A 1008W | 0.5A 6W |
| Peak current/ Peak power (5sec. max) 100V AC | 49.5A 1188W | 25A 1200W | 0.5A 6W |
| Peak current/ Peak power (5sec. max) 115V AC min. | 55A 1320W | 27.5A 1320W | 0.5A 6W |
| Peak current/ Peak power (5sec. max) 200V AC | 84A 2016W | 42A 2016W | 0.5A 6W |
| Min. load | 0A | 0A | 0A |

| Size | 61(W)×128(H)×240(D) Except for fan guard (+5mm), and screw terminal block (+15mm) |
|-------|--|
| Input | 85*1-264V AC (Worldwide range) |

*1 Refer to product specifications for details as derating is required.

High efficiency and large capacity 1500W, unit type AC-DC single output power supply AC-DC Single Output

GPSA-1500 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2014 Released

Copper bar type Screw terminal block type

Continuous max. **1056–1632W**
Peak **1320–2112W**

| Model | Output voltage | Output type |
|-------------------|----------------|----------------------|
| GPSA-1500-24P-PES | +24V | Copper bar |
| GPSA-1500-24P-TES | +24V | Screw terminal block |
| GPSA-1500-48P-PES | +48V | Copper bar |
| GPSA-1500-48P-TES | +48V | Screw terminal block |

| Output voltage | +24V | +48V | +12VSB (Common spec) |
|--|-------------|---------------|----------------------|
| Max. current/Max. power (Continuous) 100V AC | 44A / 1056W | 23A / 1104W | 0.5A / 6W |
| Max. current/Max. power (Continuous) 200V AC | 63A / 1512W | 34A / 1632W | 0.5A / 6W |
| Peak current/Peak power (5sec. max) 100V AC | 55A / 1320W | 27.5A / 1320W | 0.5A / 6W |
| Peak current/Peak power (5sec. max) 200V AC | 85A / 2040W | 44A / 2112W | 0.5A / 6W |
| Min. load | 0A | 0A | 0A |

Size: 82(W)×128(H)×250(D)
Except for fan guard, and copper bar / screw terminal block

Input: 85*–264V AC (Worldwide range)

1U size with slim, and large capacity output power supply AC-DC Single Output

GP1UT-6000 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

Under development

* Prototype

Continuous max. **7200W**

| Model | Output voltage |
|--------------------|----------------|
| GP1UT-6000-400-TES | +400V |

| | |
|---------------------------|-----------------|
| Output voltage | +400V |
| Output voltage control VR | 240-400V |
| Rated current / power | 18A typ / 7200W |
| Min. load | 0A |

Size: 444(W)×43(H)×500(D)
Except for screw terminal block (+22mm)

Input: Three-phase 170*–264V AC

Compact & large capacity unit type single output power supply 5000W AC-DC Single Output

GPSA-5000 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2015 Released

Continuous max. **4800–4992W**
Peak **6000W**

| Model | Output voltage |
|-------------------|----------------|
| GPSA-5000-48P-PIS | +48V |
| GPSA-5000-96P-PIS | +96V |

| Output voltage | +48V | +96V | +12VSB (Common spec) |
|--------------------------------------|--------------|---------------|----------------------|
| Max. current/Max. power (Continuous) | 100A / 4800W | 52A / 4992W | 0.5A / 6W |
| Peak current/Peak power (5sec. max) | 125A / 6000W | 62.5A / 6000W | 0.5A / 6W |
| Min. load | 0A | 0A | 0A |

Size: 198(W)×125(H)×314(D)
Except for fan guard (+5.8mm), and copper bar (+43mm)

Input: Three-phase 170*–240V AC

6U size large capacity output power supply AC-DC Single Output

GP6UT-10K Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

Under development

* Prototype

Continuous max. **7560–10800W**

| Model | Output voltage |
|-------------------|----------------|
| GP6UT-10K-400-PES | +400V |

| | |
|-------------------------------|-------------------|
| Output voltage | +400V |
| Output voltage control VR | 240-400V |
| Rated current / power 230V AC | 19.6A typ / 7560W |
| Rated current / power 480V AC | 27A typ / 10800W |
| Min. load | 0A |

Size: 255(W)×145(H)×460(D)
Except for screw terminal block (+22.7mm)

Input: Three-phase 180*–528V AC

AC-DC 360W single output medical power supply, 24V output available for backup at blackout AC-DC Single Output

mGPSA-360 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2010 Released

Medical Standard IEC60601-1 Ed.2, Ed.3 (MOOP) certified

Continuous max. **360W**
Peak **480–600W**

| Model | Output voltage | Blackout backup availability |
|-----------------|----------------|------------------------------|
| mGPSA-360-12-TP | +12V | — |
| mGPSA-360-24-TP | +24V | ○ |

| Output voltage | +12V | +24V | +12VSB (Common spec) |
|---|------------|----------------|----------------------|
| Max. current/Max. power (Continuous) | 30A / 360W | 15A / 360W | 0.3A / 3.6W |
| Peak current/Peak power (5sec. max) 100V AC | 40A / 480W | 20.8A / 499.2W | 0.3A / 3.6W |
| Peak current/Peak power (5sec. max) 200V AC | 40A / 480W | 25A / 600W | 0.3A / 3.6W |
| Min. load | 0A | 0A | 0A |

Size: 41(W)×128(H)×230(D)
Except for fan guard (+5mm), and screw terminal block (+15mm)

Input: 85*–264V AC (Worldwide range)

Applicable battery packs: BS14A-H24/2.5L, 1U/3U size fixed type Ni-MH battery, P73


*1 Refer to product specifications for details as derating is required.

High efficiency / compact type AC-DC single output DIN rail mount compatible power supply AC-DC Single Output

UDP-120 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released



Continuous max. 120W
Peak 201.6-300W

| Model | Output voltage | Input/Output terminal | Capacitor unit | Battery unit |
|-------------------|----------------|-----------------------|----------------|--------------|
| UDP-120-A24-E00-B | +24V | European terminal | × | ○ |
| UDP-120-A24-EB0-B | +24V | European terminal | ○ | ○ |
| UDP-120-A24-T00-B | +24V | Screw terminal block | × | ○ |
| UDP-120-A24-TB0-B | +24V | Screw terminal block | ○ | ○ |

| | |
|---|---------------|
| Output voltage | +24V |
| Max. current/ Max. power | 5A / 120W |
| Peak current/ Peak power (10sec. max) 100V AC | 8.4A / 201.6W |
| Peak current/ Peak power (10sec. max) 200V AC | 12.5A / 300W |
| Min. load | 0A |

The dedicated capacitor units/battery units

| | | |
|------------------------------------|--------------------------|-----|
| DS01A-EC400/172F-B ^{*2,3} | Capacitor unit | P75 |
| DS02A-L24/2.5L-B | Lithium-ion battery unit | P75 |


Size: 35(W)×124(H)×117.5(D) With DIN-rail bracket
Input: 85*1-264V AC (Worldwide range)

High efficiency 94% typ AC-DC single output DIN rail mount compatible power supply AC-DC Single Output

UDP-240 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2019 Released



Continuous max. 240W
Peak 400.8W

| Model | Output voltage | Input/Output terminal | Capacitor unit | Battery unit |
|-------------------|----------------|-----------------------|----------------|--------------|
| UDP-240-A24-E00-B | +24V | European terminal | × | ○ |
| UDP-240-A24-EB0-B | +24V | European terminal | ○ | ○ |
| UDP-240-A24-T00-B | +24V | Screw terminal block | × | ○ |
| UDP-240-A24-TB0-B | +24V | Screw terminal block | ○ | ○ |

| | |
|---------------------------------------|----------------|
| Output voltage | +24V |
| Max. current/ Max. power | 10A / 240W |
| Peak current/ Peak power (10sec. max) | 16.7A / 400.8W |
| Min. load | 0A |

Other products line-up
■ DC input type UDD-240-HV/A24V-E00-B input voltage: 120-400V DC
[UL62368-1, CSA62368-1 (c-UL) certification range: 135-350V DC / UL508 certification range: 135-310V DC]

The dedicated capacitor units/battery units

| | | |
|------------------------------------|--------------------------|-----|
| DS01A-EC400/172F-B ^{*2,3} | Capacitor unit | P75 |
| DS02A-L24/2.5L-B | Lithium-ion battery unit | P75 |


Size: 41(W)×124(H)×117.5(D) With DIN-rail bracket
Input: 85*1-264V AC (Worldwide range)

High efficiency / compact type AC-DC single output DIN rail mount compatible power supply AC-DC Single Output

UDP-180 Series

Function: DC start, RS 232C, USB, TTL, PFC, Silence, 5VSB FAN, TSFC FAN, Connection, RoHS

2022 Released



Continuous max. 180W
Peak 201.6-300W

| Model | Output voltage | Input/Output terminal | Capacitor unit | Battery unit |
|-------------------|----------------|-----------------------|----------------|--------------|
| UDP-180-A24-E00-B | +24V | European terminal | × | ○ |
| UDP-180-A24-EB0-B | +24V | European terminal | ○ | ○ |
| UDP-180-A24-T00-B | +24V | Screw terminal block | × | ○ |
| UDP-180-A24-TB0-B | +24V | Screw terminal block | ○ | ○ |

| | |
|---|---------------|
| Output voltage | +24V |
| Max. current/ Max. power | 7.5A / 180W |
| Peak current/ Peak power (10sec. max) 100V AC | 8.4A / 201.6W |
| Peak current/ Peak power (10sec. max) 200V AC | 12.5A / 300W |
| Min. load | 0A |

The dedicated capacitor units/battery units


| | | |
|------------------------------------|--------------------------|-----|
| DS01A-EC400/172F-B ^{*2,3} | Capacitor unit | P75 |
| DS02A-L24/2.5L-B | Lithium-ion battery unit | P75 |

Size: 35(W)×124(H)×117.5(D) With DIN-rail bracket
Input: 85*1-264V AC (Worldwide range)

*1 Refer to product specifications for details as derating is required. *2 Need separately sold dedicated harness
*3 Choose UDP-***-A24-*B* for using DS01A-EC400/172F.

Compact size and large capacity DC-DC step-up converter

100TBFS-2500-280



Input 24V ⇒ Output 284V Input 48V ⇒ Output 284V

| | | | |
|-----------------|-------|-----------------|-------|
| Continuous max. | 1.2kW | Continuous max. | 2.5kW |
| Peak | 1.5kW | Peak | 4.0kW |

Input 96V ⇒ Output 284V


| | |
|-----------------|-------|
| Continuous max. | 4.5kW |
| Peak | 5.0kW |

Size 283(W)×62(H)×246(D)

| Mode | Setting [1] | Setting [2] | Setting [3] |
|--|-------------|-------------|-------------|
| Input voltage (DC) | 24V | 48V | 96V |
| Range of input voltage (DC) | 19 - 37V | 37 - 74V | 74 - 128V |
| Output voltage (DC) | 284V | 284V | 284V |
| Max. output current/ power (Continuous) | 4.23A | 8.8A | 15.9A |
| | 1200W | 2500W | 4500W |
| Max. output current/ power (Peak) | 5.28A | 14.1A | 17.6A |
| | 1500W | 4000W | 5000W |
| | 10sec. max. | 10sec. max. | 10sec. max. |

"Digital Tajubu" two-way, multiple boosting stepping-up/down DC-DC converter

dTBRS-5000/3000-155/320



Basic model input/output specification

| The boost part (discharging to the inverter) | |
|---|--|
| Range of input voltage (DC) | 48V-230V |
| Output voltage (DC) | 320V (regenerative charging ⇒ discharging)* |
| Output current (hold-down current limiting point) | 11A*(1A-Peak current) Peak current = Peak output power/output voltage |
| Output power (Continuous) | 2000W |
| Peak output power (10sec. max.) | 3500W |
| The step-down part (charging on capacitor) | |
| Range of input voltage (DC) | 200V-420V |
| Output voltage (DC) | 70V (initial charging) / 155V (regenerative charging) |
| Output current (Continuous) | 20A*(1A-20A) |
| Output power (Continuous) | 2000W |
| Peak output current (10sec. max.) | 60A±6A (At 83V max.) |
| Peak output power (10sec. max.) | 5000W (At 83V min.) |


Size 290(W)×80(H)×200(D)

The boost part: Continuous max. 2.0kW, Peak 3.5kW
The step-down part: Continuous max. 2.0kW, Peak 5.0kW

* User-settable (The shown specification is initial value.)
* Contact us for setting your favorable input/output specification.

Having large track record in total for sales and outstanding in reliability, DC-DC converter 'Tajubu' of multiple booster system

TB Series



Basic model input/output specification

| Model | TB4S-2000-280 | TB2S-1500-280 | TB2S-1500-140 |
|--|---------------|--------------------|--------------------|
| Rated input voltage (DC) | 48V | 24V | 24V |
| Range of input voltage (DC) | 37 - 63V | 18 - 32V | 18 - 32V |
| Output voltage (DC) | 284V | 284V | 140V |
| Max. output current/ power (Continuous) | 7A | 3.52A | 7.4A |
| | 1988W | 1500W ¹ | 1500W ¹ |
| Max. output current/ power (Peak) | 16A | 5.28A | 11A |
| | 4544W | 1500W | 1540W |
| | 10sec. max. | 5sec. max. | 5sec. max. |

¹Please contact us if you are required to have a modification in spec. such as input/output voltages. ²At input voltage 24V min.

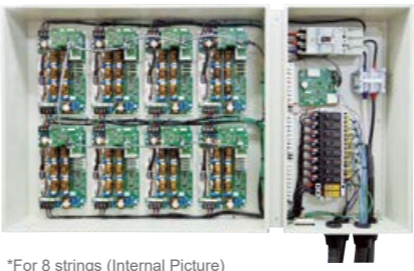
Input/output specification (Parallelized TB4S-2000-280)

| Model | TB4D-4000-280(2 units in parallel) | TB4T-6000-280(3 units in parallel) |
|--|------------------------------------|------------------------------------|
| Rated input voltage (DC) | 48V | 48V |
| Range of input voltage (DC) | 37 - 63V | 37 - 63V |
| Output voltage (DC) | 284V | 284V |
| Max. output current/ power (Continuous) | 14A | 21A |
| | 3976W | 5964W |
| Max. output current/ power (Peak) | 30A | 45A |
| | 8520W | 12780W |
| | 10sec. max. | 10sec. max. |

Size TB*S series : 290(W)×80(H)×200(D)
TB4D-4000-280 : 290(W)×175(H)×200(D)
TB4T-6000-280 : 290(W)×260(H)×200(D)

Maximization of generated power by reducing opportunity loss of power generation

PV Maximizer



For 8 strings (Internal Picture)

Features

- Maximization of power generation
- High accuracy monitoring function(optional)

It maximizes output power by balancing voltage differences from shadow and characteristic degradation that cause reducing generated power.

It is possible to replace existing junction box or add PV Maximizer without replacing it.

It can be installed to existing solars

It maximizes generated power for each string by minimizing generated power loss of PV. (shadows, differences of panel characteristic, degradation, etc.)

Easy to build an extension due to no necessity to have panels by specified numbers.


Realizes drastic maintenance cost reduction by monitoring generated power and measuring I-V curve without stopping system, installing monitoring unit embedded I-V tracing function as option.

It is the high accuracy monitoring function, measuring changing current & voltage of each string. Measuring of I-V curve is available by remote control without stopping system under embedding I-V tracer function.

Size 1194(W)×618(H)×185.2(D) (8 strings type)

No electrolytic capacitors and fan used and long lifetime! DC-DC step-up converter

100TBFL-1000-400V



Basic model input/output specification

| Type | 400V type |
|--------------------------------|----------------|
| Range of input voltage | 20 - 300V DC |
| Step-up start voltage | 24±2V DC min. |
| Step-up stop voltage | 18±2V DC max. |
| Output voltage adjusting range | 100 - 400V DC* |

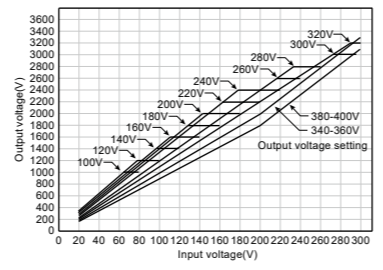
*Every 20V, 16 levels by DIP switch

Input 150V ⇒ Output 180V

| | |
|-----------------|-------|
| Continuous max. | 1.8kW |
|-----------------|-------|

Size 135(W)×56(H)×250(D)

Input voltage - Max. Output Power Characteristic



Series lineup


| Input voltage | Model | The number of circuits | Input current per circuit | | Max. output current | Size | | | Weight |
|---------------|------------------|------------------------|---------------------------|------------------------------------|---------------------|----------|---------|---------|------------|
| | | | Max. input current | Short-circuit current [*] | | W | H | D | |
| 1000V | 4STB100-32K1000V | 4 | 10A | 11A | 40A | 1130.5mm | 617.6mm | 145.2mm | 48kg max. |
| | 3STB100-24K1000V | 3 | 10A | 11A | 30A | 1130.5mm | 617.6mm | 145.2mm | 43kg max. |
| | 1STS100-8K1000V | 1 | 10A | 11A | 10A | 535.5mm | 385.8mm | 125.2mm | 16kg max. |
| 750V | 8STB100-36K750V | 8 | 10A | 11A | 80A | 1130.5mm | 657.6mm | 145.2mm | 45kg max. |
| | 7STB100-32K750V | 7 | 10A | 11A | 70A | 1130.5mm | 657.6mm | 145.2mm | 43kg max. |
| | 6STB100-27K750V | 6 | 10A | 11A | 60A | 970.5mm | 657.6mm | 145.2mm | 40kg max. |
| | 5STB100-23K750V | 5 | 10A | 11A | 50A | 970.5mm | 657.6mm | 145.2mm | 38kg max. |
| | 4STB100-18K750V | 4 | 10A | 11A | 40A | 810.5mm | 657.6mm | 145.2mm | 35kg max. |
| | 3STB100-14K750V | 3 | 10A | 11A | 30A | 810.5mm | 657.6mm | 145.2mm | 33kg max. |
| 400V | 1STS100-5K750V | 1 | 10A | 11A | 10A | 335.5mm | 385.8mm | 125.2mm | 8.5kg max. |
| | 4STQ-12KSD400VM | 4 | 10A | 12A | 40A | 328mm | 509mm | 207mm | 15kg max. |

Built-in board model for each voltage type 1000V type Built-in board model: 100TBFL-10A-S1000V Max. Input voltage: 1000V
750V type Built-in board model: 100TBFL-10A-S750V Max. Input voltage: 750V

* Short-circuit current value of solar panels (Isc)

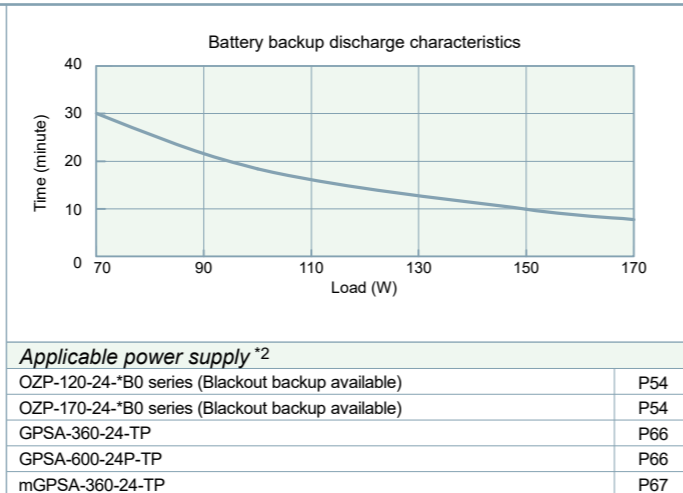
Ni-MH battery pack for OZP/GPSA series (24V type) **Ni-MH**

BS14A-H24/2.5L



Backup Time
Load: **100W**
Time: **18min.**

| | | | |
|----------|---------------------|----------------|---------------|
| Capacity | 16.5V DC/2.5AH | Output voltage | 24V DC typ *1 |
| Size | 128(W)×41(H)×211(D) | | |



RS232C signal converter


ACC3318



The RS232C signal which enables automatic OS shutdown* is available by connecting ACC3318 to BS14A-H24/2.5L.
* It is available of Automatic shutdown by using the software , 'NSP Pro2'

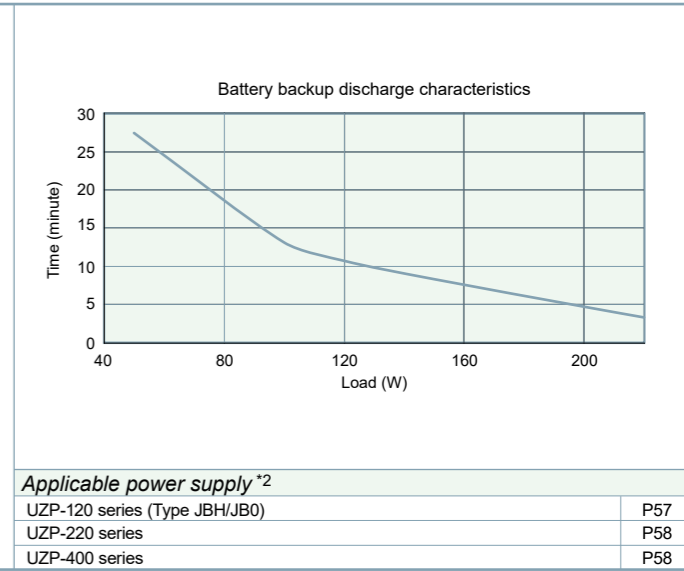
5 inch bay, Ni-MH battery pack **Ni-MH**

BS28A-H350/2.5L




Backup Time
Load: **100W**
Time: **13min.**

| | | | |
|----------|---------------------|----------------|---------------|
| Capacity | 16.8V DC/2.5Ah | Output voltage | 350V DC typ*1 |
| Size | 146(W)×41(H)×200(D) | | |



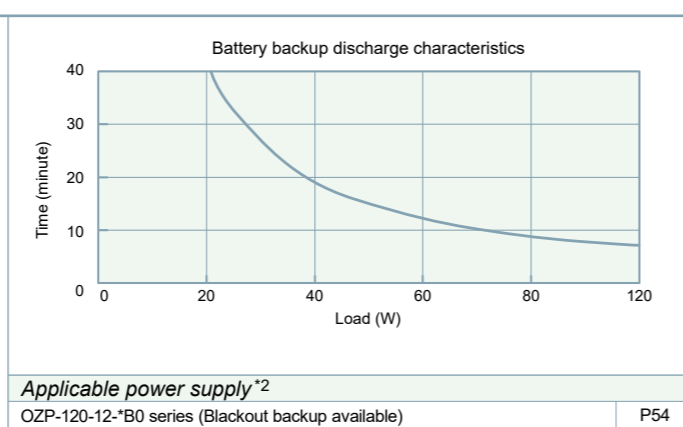
Ni-MH battery pack for OZP-120 (12V type) **Ni-MH**

BS24A-H12/2.0L-R



Backup Time
Load: **50W**
Time: **15min.**

| | | | |
|----------|---------------------------|----------------|------------|
| Capacity | 8.4V DC/2.0AH | Output voltage | 12V DC typ |
| Size | 101.5(W)×25.4(H)×180.5(D) | | |




Signal harness

| | |
|------------------|---|
| WH-S1004-500* | Signal harness (COM port connector type) for BS24A-H12/2.0L |
| WH-S1004-500-01* | Signal harness (COM port connector type) for BS24A-H12/2.0L |
| WH-C04PH-500 | Signal harness (Wire cut-off type) for BS24A-H12/2.0L |

*WH-S1004-500 and WH-S1004-500-01 have different connector pin assignment. Refer to our Web-site for details.

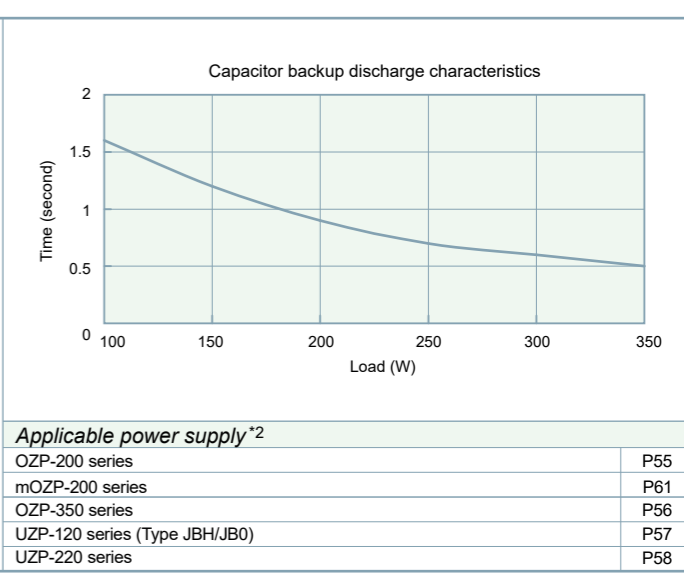
5 inch bay fixed type capacitor pack **Capacitor**

BS13A-EC400/422F



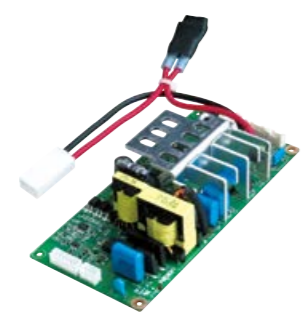
Backup Time
Load: **180W**
Time: **1sec.**

| | | | |
|----------|---------------------|----------------|---------|
| Capacity | 4200uF | Output voltage | 400V DC |
| Size | 146(W)×38(H)×200(D) | | |



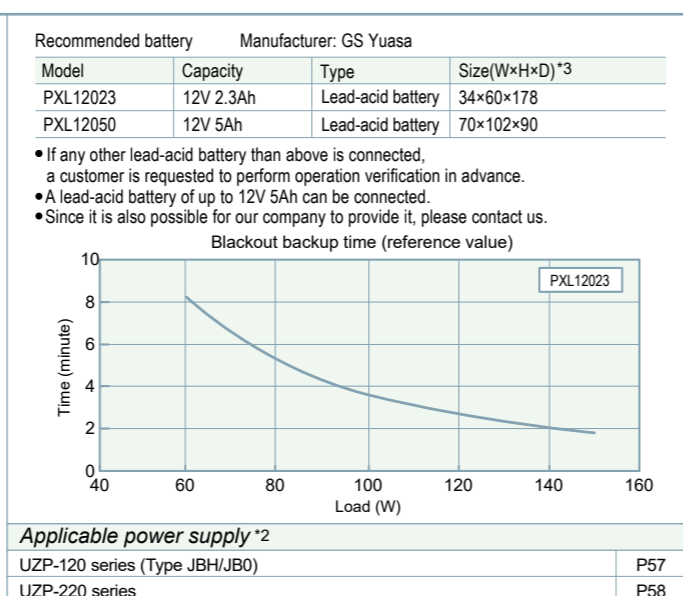
Charging/discharging board **Lead-acid**

BS27A-P350/12V



Discharge capacity
Continuous max Convection cooling : **100W**
forced air cooling : **150W**
Peak : **200W**
Charge capacity
Continuous max : **13.6V/0.5A typ**

| | |
|----------------|---|
| Capacity | Connectable with the lead-acid battery of up to 12V 5Ah |
| Size | 73(W)×37(H)×158(D) |
| Output voltage | 12V DC typ |



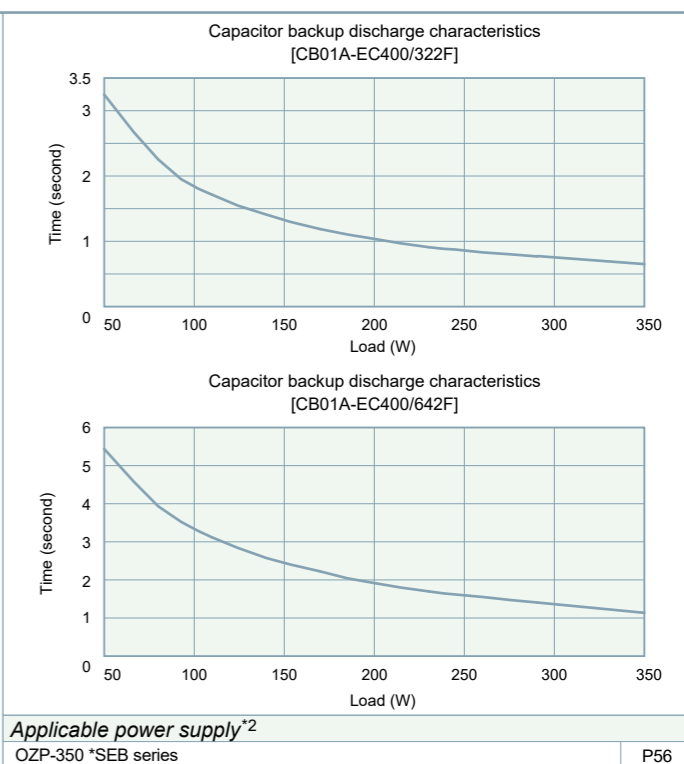
Capacitor backup board **Capacitor**

CB01A-EC400/ Series



Backup Time
[CB01A-EC400/322F]
Load: **350W**
Time: **0.5sec.**
[CB01A-EC400/642F]
Load: **350W**
Time: **1sec.**

| | | | |
|----------|--|----------------|---------|
| Capacity | 3200uF [CB01A-EC400/322F] 6400uF [CB01A-EC400/642F] | Output voltage | 420V DC |
| Size | 83(W)×53(H)×222(D) | | |



* The backup time is only for reference at initial use. Not guaranteed. •For used-battery recycling, visit our Web site.
*1 Built-in booster output voltage *2 Need separately sold dedicated harness *3 No protruding object shall be included.

* The backup time is only for reference at initial use. Not guaranteed. •For used-battery recycling, visit our Web site.
*1 Built-in booster output voltage *2 Need separately sold dedicated harness

Capacitor backup board

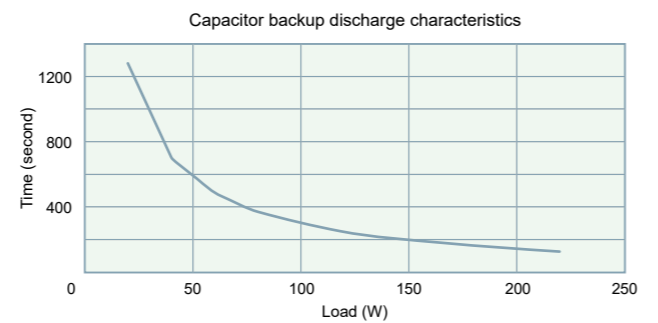
Capacitor

CB03 Series



Backup Time
Load: **200W**
Time: **0.15sec.**

| | | | |
|----------|-------------------|----------------|---------|
| Capacity | 800uF | Output voltage | 420V DC |
| Size | 60(W)×50(H)×50(D) | | |



Applicable power supply*1

| | |
|--|-----|
| FZP-040 series (Type JBH) : CB03B-EC400/801F | P53 |
| OZP-200 series : CB03A-EC400/801F | P55 |
| UZP-120 series (Type JBH/JB0) : CB03A-EC400/801F | P57 |
| UZP-220 series : CB03A-EC400/801F | P58 |
| UZP-400 series : CB03A-EC400/801F | P58 |
| mFZP-075 series : CB03B-EC400/801F | P60 |
| mOZP-350 series : CB03A-EC400/801F | P61 |
| mUZP-220 series : CB03A-EC400/801F | P63 |

Capacitor unit

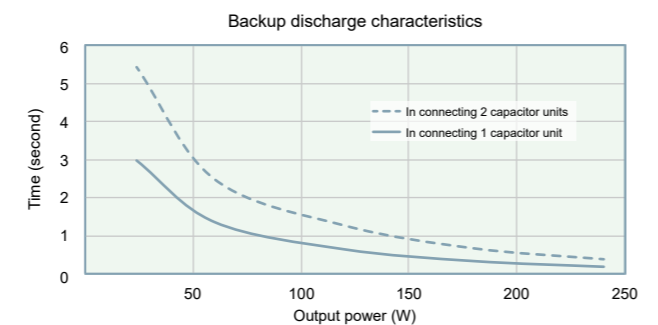
Capacitor

DS01A-EC400/172F-B



Backup Time
Load: **120W**
Time: **0.65sec.**

| | | | |
|----------|-----------------------|----------------|---------|
| Capacity | 1680uF | Output voltage | 400V DC |
| Size | 41(W)×124(H)×117.5(D) | | |



Applicable power supply*1

| | |
|-----------------|-----|
| UDP-120-A24-*B* | P69 |
| UDP-180-A24-*B* | P69 |
| UDP-240-A24-*B* | P70 |

Battery unit

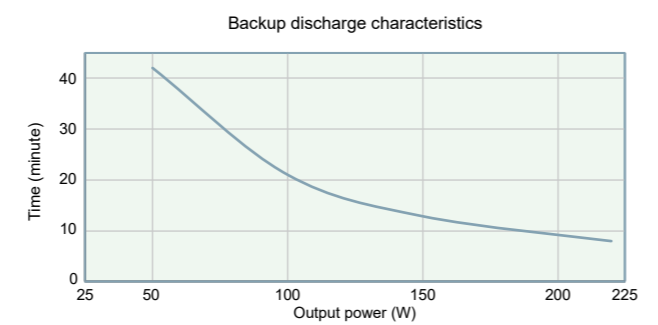
Li-ion

DS02A-L24/2.5L-B



Backup Time
Load: **220W**
Time: **7min**

| | | | |
|----------|-----------------------|----------------|--------|
| Capacity | 2500mAh | Output voltage | 23V DC |
| Size | 41(W)×124(H)×117.5(D) | | |



Applicable power supply

| | |
|--------------------|-----|
| UDP-120-A24 series | P69 |
| UDP-180-A24 series | P69 |
| UDP-240-A24 series | P70 |

•The backup time is only for reference at initial use. Not guaranteed.
*1 Need separately sold dedicated harness

Standby power supply board

| Photo | Model | Type | Description |
|-------|---------------|--------------------------|---|
| | PS-10WP-5VSB | 5VSB power supply board | 5V standby output is available by adding this board. Compact/ high efficiency / low cost by rectifying bridgeless/ filterless structure [Compliant model] OZP-200 series, OZP-350 series, mOZP-200 series |
| | PS-10WP-12VSB | 12VSB power supply board | 12V standby output is available by adding this board. Compact/ high efficiency / low cost by rectifying bridgeless/ filterless structure [Compliant model] OZP-200 series, OZP-350 series |

Other

| Photo | Type | Description |
|-------|----------------------------|--|
| | Overcurrent protection PCB | Double of overcurrent protection (OCP) with timer is available by connecting an overcurrent limiting PCB [Overcurrent protection PCB] OZP-200 series, OZP-350 series * Regarding the over current protection PCBs, please contact us. |

Options for FZP, OZP, mFZP, mOZP series

| Page | Series name | Option model name | Type | Description |
|------------|---|-------------------------|---|---|
| P53 P60 | FZP-040 series mFZP-040 series | WH-C05VH-800 | Input harness | Wire cut-off type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise |
| | | WH-C04VH-800 | Output harness | Wire cut-off type |
| P60 | mFZP-075 series | WH-C05VH-800 | Input harness | Wire cut-off type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise |
| | | WH-C04XH-800-1 | Output harness | Wire cut-off type |
| | | CB03A-EC400/801F | Capacitor backup board | |
| | | WH-03XH03XH-115 | Power harness for connecting the capacitor backup board | Connect the capacitor backup board, "CB03A-EC400/801F" and PSU |
| P54 | OZP-120 series OZP-170 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise * Nylon connector type |
| | | WH-C08VH-500 | Output harness | Wire cut-off type * Nylon connector type |
| | | WH-02XH02XH-500 | Harness for RC signal | For output ON/OFF control signal (RC signal) |
| | | WH-05XH05XH-500 | Signal harness | For AC_FAIL, BATT_LOW signal (Output Batt Low signal only at the connection battery package) |
| | | BS14A-H24/2.5L | Battery package | 24V output, 1U/3U sized, Ni-MH battery package * Only OZP-120-24-"B", OZP-170-24-"B" * Refer to p.78 about the option for battery package |
| | | BS24A-H12/2.0L-R | Battery package | 12V output, 3.5-inch bay sized, Ni-MH battery package * Only OZP-120-24-"B" * Refer to p.78 about the option for battery package |
| P55 P61 | OZP-200 series OZP-240/600P series mOZP-200 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise * Nylon connector type |
| | | WH-C06VH-500 | Output harness (+) | Wire cut-off type * For 3.3 - 5V output, Nylon connector type |
| | | WH-C07VH-500 | Output harness (-) | Wire cut-off type * For 3.3 - 5V output, Nylon connector type |
| | | WH-C08VH-500 | Output harness | Wire cut-off type * For 12 - 48V output, Nylon connector type |
| | | WH-02PH02PH-200 | Signal harness for parallel operation | The harness for parallel operation |
| | | WH-02XH02XH-500 | Harness for RC signal | For output ON/OFF control signal (RC signal) |
| | | WH-05XH05XH-500 | Signal harness | For AC_FAIL signal,RS |
| | | PS-10WP-5VSB | Standby power supply board | 5V type |
| | | WH-03XH03XH-115 | Power harness for Standby power supply board | Power harness to connect "PS-10WP-5VSB", "PS-10WP-12VSB" |
| | | WH-C02XA-500 | Output harness for Standby power supply board | Wire cut-off type |
| | | BS13A-EC400/422F | Capacitor package | 5 inch bay fixed type * Only OZP-200 series |
| | | WH-03ELP03XH-200 | Power harness for connecting the capacitor package | Connect the capacitor package, "BS13A-EC400/422F" and PSU |
| | | CB03A-EC400/801F | Capacitor backup board | * Only OZP-200 series |
| | | WH-03XH03XH-115 | Power harness for connecting the capacitor backup board | Connect the capacitor backup board, "CB03A-EC400/801F" and PSU * Only OZP-200 series |

Options for OZP, mOZP, UZP, mUZP, mUZPT series

| Page | Series name | Option model name | Type | Description |
|------------|--|--------------------------|---|--|
| P56 P61 | OZP-350 series mOZP-350 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C06VH-500 | Output harness (+) | Wire cut-off type * Nylon connector type |
| | | WH-C07VH-500 | Output harness (-) | Wire cut-off type * Nylon connector type |
| | | WH-02PH02PH-200 | Signal harness for parallel operation | The harness for parallel operation |
| | | WH-02XH02XH-500 | Harness for RC signal | For output ON/OFF control signal (RC signal) |
| | | WH-05XH05XH-500 | Signal harness | For AC_FAIL signal and RS signal |
| | | PS-10WP-5VSB | Standby power supply board | 5V type |
| | | PS-10WP-12VSB | Standby power supply board | 12V type |
| | | WH-03XH03XH-115 | Power harness for connecting Standby power supply board | Power harness to connect "PS-10WP-5VSB", "PS-10WP-12VSB" |
| | | WH-C02XA-500 | Output harness for Standby power supply board | Output harness for Standby power supply board Wire cut-off type |
| | | BS13A-EC400/422F | Capacitor package | 5 inch bay fixed type |
| | | WH-03ELP03XH-200 | Power harness for connecting the capacitor package | Connect the capacitor package, "BS13A-EC400/422F" and PSU |
| | | CB01A-EC400/322F | Capacitor backup board | 4 capacitors type * Only OZP-350-"SEB" |
| | | CB01A-EC400/642F | Capacitor backup board | 8 capacitors type * Only OZP-350-"SEB" |
| | | WH-07XH0306XH-300 | Harness for connecting capacitor backup board | Harness for capacitor backup board (CB01A series) |
| P57 P62 | UZP-120 series mUZP-120 series mUZPT-120 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise * Nylon connector type |
| | | WH-C06VH-500-03 | Output harness | Wire cut-off type * Nylon connector type |
| | | WH-02XH02XH-500 | Harness for RC signal | For output ON/OFF control signal (RC signal) * Except for +UZP+-120-+-J0L type. |
| | | BS13A-EC400/422F | Capacitor package | 5 inch bay fixed type * Except for +UZP+-120-+-J0L type. |
| | | WH-03ELP03XH-200 | Power harness for connecting the capacitor package | Connect the capacitor package, "BS13A-EC400/422F" and PSU |
| | | BS27A-P350/12V | Charging/discharging board | Charging/discharging board for lead-acid battery * Except for +UZP+-120-+-J0L type. |
| | | WH-03XH03XH-350 | Power harness for connecting the charging/discharging board | Connection harness required for connection with UZP/mUZP/mUZPT-120 series |
| | | BS28A-H350/2.5L | Battery package | * Except for +UZP+-120-+-J0L type. |
| | | WH-09ELP03XH-200 | Power harness for connecting the battery package | Connect the battery package, "BS28A-H350/2.5L" and PSU |
| | | CB03A-EC400/801F | Capacitor backup board | * Except for +UZP+-120-+-J0L type. |
| | | WH-03XH03XH-115 | Power harness for connecting the capacitor backup board | Connect the capacitor backup board, "CB03A-EC400/801F" and PSU |

Power Supply for Desktop PCs with UPS function

Power Supply for Desktop PCs

Power Supply for System Rack

Option (Power Supply for PC)

Single / Multi output power supply

Option (Single / Multi output power supply)

Power Supply for Desktop PCs with UPS function

Power Supply for Desktop PCs

Power Supply for System Rack

Option (Power Supply for PC)

Single / Multi output power supply

Option (Single / Multi output power supply)

Options for UZP, mUZP series

| Page | Series name | Option model name | Type | Description |
|-------------------|--|-------------------------|---|---|
| P57 P58 P63 | UZP-150 series UZP-220 series mUZP-150 series mUZP-220 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise * Nylon connector type |
| | | WH-C08VH-500 | Output harness | Wire cut-off type * Nylon connector type |
| | | WH-02XH02XH-500 | Harness for RC signal | For output ON/OFF control signal (RC signal) |
| | | BS13A-EC400/422F | Capacitor package | 5 inch bay fixed type * Only UZP-220 |
| | | WH-03ELP03XH-200 | Power harness for connecting the capacitor package | Connect the capacitor package, "BS13A-EC400/422F" and PSU |
| | | BS27A-P350/12V | Charging/discharging board | Charging/discharging board for lead-acid battery * Only UZP-220 |
| | | WH-03XH04XH-350 | Power harness for connecting the charging/discharging board | Connection harness required for connection with UZP/mUZP-220 series |
| | | BS28A-H350/2.5L | Battery package | * Only UZP-220 |
| | | WH-09ELP04XH-200 | Power harness for connecting the battery package | Connect the battery package, "BS28A-H350/2.5L" and PSU |
| | | CB03A-EC400/801F | Capacitor backup board | * Only UZP-220 |
| | | WH-03XH04XH-115 | Power harness for connecting the capacitor backup board | Connect the capacitor backup board, "CB03A-EC400/801F" and PSU |
| P58 P59 P64 | UZP-400 series UZP-400/1200P series mUZP-400 series | WH-C05VH-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type of ferrite core for the measure against noise * Nylon connector type |
| | | WH-C06VH-500 | Output harness (+) | Wire cut-off type * Nylon connector type |
| | | WH-C07VH-500 | Output harness (-) | Wire cut-off type * Nylon connector type |
| | | BS28A-H350/2.5L | Battery package | |
| | | WH-09ELP04XH-200 | Power harness for connecting the battery package | Connect the battery package, "BS28A-H350/2.5L" and PSU |
| | | CB03A-EC400/801F | Capacitor backup board | |
| | | WH-03XH04XH-115 | Power harness for connecting the capacitor backup board | Connect the capacitor backup board, "CB03A-EC400/801F" and PSU |
| P59 | UZP-600 series | WH-C05JFAS-800 | Input harness | Wire cut-off type * Nylon connector type |
| | | WH-C04JFAD-500 | Output harness (4-pin type) | Wire cut-off type (up to 3 wires connectable) * Nylon connector type |
| | | WH-C07PA-500 | Signal harness | For output ON/OFF control signal (RC signal), AC_FAIL, and +12VSB |

Options for OZM series

| Page | Series name | Option model name | Type | Description |
|------|---|------------------------|---------------------------------|--|
| P65 | OZM-015 series | WH-C05VH-800 | Input harness | Wire cut-off type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type with ferrite core for the measure against noise |
| | | WH-C08XH-500 | Output harness | Wire cut-off type |
| P65 | OZM-030 (dual outputs type) series | WH-C05VH-800 | Input harness | Wire cut-off type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type with ferrite core for the measure against noise |
| | | WH-C04VH-500-01 | Output harness | Wire cut-off type |
| P65 | OZM-030 (triple outputs type) series | WH-C05VH-800 | Input harness | Wire cut-off type |
| | | WH-C05VH-800-01 | Input harness with ferrite core | Cut-off type with ferrite core for the measure against noise |
| | | WH-C06VH-500-02 | Output harness | Wire cut-off type |

Options for GPSA, mGPSA series

| Page | Series name | Option model name | Type | Description |
|------------|---|---------------------------|---------------------------------------|---|
| P65 P66 | GPSA-360 series mGPSA-360 series | WH-08XA08XA-500 | Signal harness | For BATT_LOW ¹ , AC_FAIL, FAN_M, PS_ON, PWR_OK, and +12VSB |
| | | BS14A-H24/2.5L | Battery package | 24V output, 1U/3U sized, Ni-MH battery package * Only *GPSA-360 24V output type can be connected * Refer to p.78 about the option for battery package |
| P66 | GPSA-600 series GPSA-1000 series | WH-08XA08XA-500 | Signal harness | For BATT_LOW ¹ , AC_FAIL, FAN_M, PS_ON, PWR_OK, and +12VSB |
| | | BS14A-H24/2.5L | Battery package | 24V output, 1U/3U sized, Ni-MH battery package * Only GPSA-600, 24V output type * Refer to p.78 about the option for battery package |
| | | WH-04PA04PA-100 | Signal harness for parallel operation | Harness to operate two units in parallel |
| | | WH-04PA04PA-100-01 | Signal harness for parallel operation | Harness to operate three units in parallel |
| | | ACC6183 | Bar for parallel operation | Metal fitting to connect two units for parallel operation |
| | | ACC6185 | Bar for parallel operation | Metal fitting to connect three units for parallel operation |
| P67 | GPSA-1500 series | WH-08XA08XA-500 | Signal harness | For AC_FAIL, FAN_M, PS_ON, RS, PWR_OK, and +12VSB |
| | | WH-02XA02XA-150 | Signal harness for parallel operation | The harness for parallel operation |
| P67 | GPSA-5000 series | WH-08XA08XA-500 | Signal harness | For AC_FAIL, FAN_M, PS_ON, RS, PWR_OK, and +12VSB |
| | | ACC3538 | Harnesses set for parallel operation | Harness for parallel operation and shorting connector for slave power supply |

¹BATT_LOW output is provided when the battery packages connected.

Options for battery packs, charging/discharging board

| Page | Battery package model name | Option model name | Type | Description |
|---------------------|----------------------------|----------------------------------|--|---|
| P73 | BS14A-H24/2.5L | WH-02XL02XL-350 | Power harness for connecting the battery pack | Signal harness to connect one battery pack (For OZP-120/170) |
| | | WH-04XL04XL-350 | Power harness for connecting the battery pack | Power harness to connect one battery pack (For *GPSA-360/600) |
| | | WH-02XL04XL-350-01 | Power harness for connecting the battery pack | Power harness to connect two battery packs (For OZP-120/170, *GPSA-360/600) |
| | | WH-16PAD04XA-350 | Signal harness for connecting the battery pack | Signal harness to connect one battery pack |
| | | WH-16PAD04XA-350-01 | Signal harness for connecting the battery pack | Signal harness to connect two battery packs |
| | | WH-C03PH-500 | Signal harness | Signal harness (Harness for LED) |
| | | ACC3318 | PCB Signal converter | PCB for converting control signal of battery pack to RS232C signal |
| P73 | BS24A-H12/2.0L-R | WH-02XL04VH-250 | Power harness for connecting the battery pack | Power harness to connect battery pack |
| | | WH-02XA04XA-300 | Signal harness for connecting the battery pack | Signal harness to connect battery pack |
| | | WH-C05VH-500 | Output harness from battery pack | Output harness for providing 12V output from battery pack |
| | | WH-C02PH-500 | Signal harness | Signal harness (For SHUT_DOWN 2 signal) |
| | | WH-S1004-500 | Signal harness | Signal harness ^{*1} (COM port connector type) |
| | | WH-S1004-500-01 | Signal harness | Signal harness ^{*1} (COM port connector type) |
| | | WH-C04PH-500 | Signal harness | Signal harness (Wire cut-off type) |
| WH-C03PH-500 | Signal harness | Signal harness (Harness for LED) | | |

*1 WH-S1004-500 and WH-S1004-500-01 have different connector pin assignment. Refer to our Web-site for details.

Options for battery packs, charging/discharging board

| Page | Battery package model name | Option model name | Type | Description |
|------|----------------------------|-----------------------------|---|--|
| P73 | BS27A-P350/12V | WH-03XH03XH-350 | Power harness for connecting the charging/discharging board | Power harness for connecting the charging/discharging board (for UZP-120) |
| | | WH-03XH04XH-350 | Power harness for connecting the charging/discharging board | Power harness for connecting the charging/discharging board (for UZP-220) |
| | | ACC6198 | Shorting connector for start-up | Connection with this connector enables blackout backup (operation in discharge circuit). |
| | | WH-S0610-500 | Signal harness | This is harness for signals AC_FAIL, SHUT_DOWN and BATT_LOW. |
| P74 | BS28A-H350/2.5L | WH-09ELP03XH-200 | Power harness for connecting the battery pack | Power harness for connecting the battery pack (for UZP-120) |
| | | WH-09ELP04XH-200 | Power harness for connecting the battery pack | Power harness for connecting the battery pack (for UZP-220) |
| | | WH-S0610-500 | Signal harness | For AC_FAIL, SHUT_DOWN, BATT_LOW |
| P75 | DS01A-EC400/172F-B | WH-02SPC02SPC-250 | Power harness for connecting the capacitor backup board | Power harness for connecting the capacitor unit 250mm (For UDP-***-A24-*B*) |
| | | WH-02SPC02SPC-500 | Power harness for connecting the capacitor backup board | Power harness for connecting the capacitor unit 500mm (For UDP-***-A24-*B*) |
| | | WH-02SPC02SPC-250-01 | Power harness for connecting the capacitor backup board | Power harness for connecting the 2 capacitor units (For UDP-***-A24-*B*) |



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