



# UPS

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OFF LINE  
LINE INTERACTIVE  
ON LINE

**POWER**  
NEVER ENDS

## About FSP Group

**FSP Group is the leading power supply manufacturer in the world.**

Since established in 1993, the company has been committed to its R&D capability, production capacity and product quality to stand out from the competitive market.

FSP Group provides a great variety of products related to power and electronics technology, such as adapter, open frame, LED Lighting, Medical, LCD TV, Industrial / Desktop computers and Servers to fulfil our OEM / ODM customers' needs. And FSP Group is now making more efforts to develop better environment friendly products, including PV Inverter, UPS and ESS products.

FSP Group's global presence in Taiwan, Brazil, China, Germany, Sweden, France, India, Japan, Korea, Russia, Turkey, UK, and USA has made it easier to provide immediate support. As FSP Group is aiming to create a win-win situation, we treat our customers as friends by providing customized products and excellent service.

For FSP Group, making **Power never ends** will be our sustainable goal.

***Our vision:***

***To be the global leading provider of green energy solutions, touch people's life, contribute to the better environment.***

***Our mission:***

***Providing the best value to customers, employees and shareholders by our innovative service and high quality products.***

**Energetic** |

**Friendly** |

**Simple** |

**Reliable**

**POWER**  
NEVER ENDS



## Uninterruptible Power Supply



01  
Off Line

NANO  
NanoFit

05  
Line Interactive

FP  
Eco  
iFP  
Eufo

13  
On line / single phase

Champ  
Champ RM  
Custos 9X+

21  
On line / three phase

Proline  
EPOS  
Mplus

# Power Rating & Function List

| UPS TYPE                               | Off-line            |         | Line-interactive    |              |       |                     | On-line                     |            |                    |      |       |
|--|---------------------|---------|---------------------|--------------|-------|---------------------|-----------------------------|------------|--------------------|------|-------|
| SERIES                                 | NANO                | NanoFit | FP                  | Eco          | iFP   | Eufo                | Champ                       | Custos 9X+ | Proline            | EPOS | Mplus |
| Phase (Input / Output)                 | 1/1                 |         | 1/1                 | 1/1          | 1/1   | 1/1                 | 1/1                         | 1/1        | 3/1, 3/3           | 3/3  | 3/3   |
| OUTPUT WAVEFORM                        | Simulated Sine Wave |         | Simulated Sine Wave |              |       | Pure Sinewave       | Pure Sinewave               |            |                    |      |       |
| Power Configuration                    | Single-phase System |         | Single-phase System |              |       | Single-phase System |                             |            | Three-phase System |      |       |
| POWER RATING (kVA)                     |                     |         |                     |              |       |                     |                             |            |                    |      |       |
| 300                                    |                     |         |                     |              |       |                     |                             |            |                    |      | ▲     |
| 210                                    |                     |         |                     |              |       |                     |                             |            |                    |      | ▲     |
| 180                                    |                     |         |                     |              |       |                     |                             |            |                    |      | ▲     |
| 120                                    |                     |         |                     |              |       |                     |                             |            |                    |      | ▲     |
| 90                                     |                     |         |                     |              |       |                     |                             |            |                    | ▲    | ▲     |
| 80                                     |                     |         |                     |              |       |                     |                             |            |                    | ▲    | ▲     |
| 60                                     |                     |         |                     |              |       |                     |                             |            |                    | ▲    | ▲     |
| 40                                     |                     |         |                     |              |       |                     |                             |            |                    | ▲    | ▲     |
| 30                                     |                     |         |                     |              |       |                     |                             |            | ▲                  |      | ▲     |
| 20                                     |                     |         |                     |              |       |                     |                             |            | ▲                  |      |       |
| 15                                     |                     |         |                     |              |       |                     |                             |            | ▲                  |      |       |
| 10                                     |                     |         |                     |              |       |                     | ▲                           |            | ▲                  |      |       |
| 6                                      |                     |         |                     |              |       |                     | ▲                           |            | ▲                  |      |       |
| 3                                      |                     |         |                     |              |       | ▲                   | ▲                           |            | ▲                  |      |       |
| 2                                      |                     |         | ▲                   |              | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| 1.5                                    |                     |         | ▲                   |              | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| 1.1                                    |                     |         | ▲                   |              | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| 1                                      |                     |         | ▲                   |              | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| 0.8                                    | ▲                   | ▲       | ▲                   | ▲            | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| 0.6                                    | ▲                   | ▲       | ▲                   | ▲            | ▲     | ▲                   | ▲                           |            | ▲                  |      |       |
| TYPE                                   | Wall-mounted        |         | Tower               | Wall-mounted | Tower | Rack-mount          | Tower / Rack-mount          | Rack-mount | Tower              |      |       |
| Outlet Type                            | Receptacle          |         |                     | Receptacle   |       |                     | Receptacle / Terminal Block |            | Terminal Block     |      |       |
| Programmable Management Outlets        | -                   | -       | -                   | -            | -     | ●                   | -                           | ●          | -                  | -    | -     |
| Build in AVR                           | -                   | -       | ●                   | ●            | ●     | ●                   | -                           | -          | -                  | -    | -     |
| Long-run Model                         | -                   | -       | -                   | -            | -     | ○                   | ○                           | ○          | ●                  | ●    | ●     |
| LCD                                    | -                   | ○       | -                   | -            | ●     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| RJ 11/45 Protect Port                  | -                   | ○       | -                   | ○            | ●     | ●                   | -                           | ●          | ●                  | ●    | ●     |
| 5V/1A Charger or USB Comm Port         | -                   | ○       | -                   | ○            | ●     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| Battery Mode Efficiency > 80%          | -                   | -       | -                   | -            | -     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| Transfer Time (AC to battery mode)=0ms | -                   | -       | -                   | -            | -     | -                   | ●                           | ●          | ●                  | ●    | ●     |
| Transfer Time (AC to bypass mode)=0ms  | -                   | -       | -                   | -            | -     | -                   | ○                           | ○          | ●                  | ●    | ●     |
| THDi/THDv                              | -                   | -       | -                   | -            | -     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| Intelligent Slot                       | -                   | -       | -                   | -            | -     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| Emergency Power Off                    | -                   | -       | -                   | -            | -     | ●                   | ○                           | ●          | ●                  | ●    | ●     |
| Advance ECO Mode                       | -                   | -       | -                   | -            | -     | -                   | ●                           | ●          | ●                  | ●    | ●     |
| PFC Function                           | -                   | -       | -                   | -            | -     | ●                   | ●                           | ●          | ●                  | ●    | ●     |
| Maintain bypass Switch                 | -                   | -       | -                   | -            | -     | -                   | -                           | ○          | ○                  | ●    | ●     |
| Parallel Function (n+1)                | -                   | -       | -                   | -            | -     | -                   | -                           | ○          | ○                  | ○    | ○     |
| Mean time to recovery, MTTR            | -                   | -       | -                   | -            | -     | -                   | -                           | -          | -                  | ○    | ●     |

Note: ●standard / ○Option / - None

# Retail Compare List



| MODEL SERIES                                     | NANO 600       | Nano-fit 600   | FP 600           | Eco 600          | iFP 600          |
|--|----------------|----------------|------------------|------------------|------------------|
| INTERNAL TOPOLOGY                                | Off-line       | Off-line       | Line-interactive | Line-interactive | Line-interactive |
| TYPE   | Wall-mounted   | Wall-mounted   | Tower            | Wall-mounted     | Tower            |
| Battery Type                                     | 12V / 7Ah      | 12V / 4.5Ah    | 12V / 7Ah        | 12V / 5Ah        | 12V / 7Ah        |
| Net Weight (kgs)                                 | 2.7            | 2.6            | 4.25             | 4                | 4.25             |
| Size D x W x H (mm)                              | 228 x 83 x 207 | 305 x 159 x 95 | 279 x 101 x 142  | 245 x 163 x 90   | 300 x 101 x 142  |
| Volume /1,000,000mm <sup>3</sup>                 | 3.9            | 4.6            | 4                | 3.6              | 4.3              |
| Back-up Time (mins)<br>@ Mac book 13" (60W)*2pcs | 14             | 7              | 10               | 8                | 10               |
| Battery Type                                     | 12V / 7Ah      | 12V / 4.5Ah    | 12V / 7Ah        | 12V / 5Ah        | 12V / 7Ah        |
| Input Breaker Protector                          | -              | ●              | ●                | ●                | ●                |
| Build in AVR                                     | -              | -              | ●                | ●                | ●                |
| Battery Backup Outlets                           | ●              | ●              | ●                | ●                | ●                |
| Surge Protected Outlets                          | -              | ●              | -                | -                | -                |
| Touch LCD  | -              | ○              | -                | -                | ●                |
| RJ 11/45 Protect Port                            | -              | ○              | -                | ○                | ●                |
| 5V/1A Charger or USB Comm Port                   | -              | ○              | -                | ○                | ●                |
| Off-mode Charging                                | -              | -              | ●                | ●                | ●                |

Note: ● standard / ○ option / - None

# Online Compare List



| MODEL SERIES  | Champ RM series   | Custos 9X+ series  |
|---|---|--|
| Long-run Model PF   | PF=0.8  | PF=0.9   |
| Standard Model can be Long-run Model (accept extra battery package) | X   | O  |
| Input Harmonic Distortion(THDi)                                     | ≤8% @ nominal input voltage                                       | ≤5% @ nominal input voltage  |
| Output Harmonic Distortion (THDv)                                   | ≤ 3 % THD (Linear Load)<br>≤ 6 % THD (Non-linear load)            | ≤ 2 % THD (Linear Load)<br>≤ 4 % THD (Non-linear load)               |
| Battery Mode Efficiency   | 1K : 83% : 2K : 87% : 3K : 88%                                    | 1K : 88% : 2K : 88% : 3K : 90%                                       |
| Advance ECO Mode  | X   | O  |
| Charging Current (max.)   | 1A  | 1.5A   |
| Programmable Power Management Outlets                               | X   | O  |
| Emergency Power Off Function (EPO)                                  | X   | O  |
| RJ45 Surge Protector  | X   | O  |
| Hot Swappable Battery Design  | X   | O  |
| IEC Outlet Numbers  | 1K : IEC C13 x 3<br>2K : IEC C13 x 4<br>3K : IEC C13 x 4+terminal | 1K : IEC C13 x 8<br>2K : IEC C13 x 8<br>3K : IEC C13 x 6+IEC C19 x 1 |
| STANDARD MODEL  |   |  |
| Dimension, D x W x H (mm)   | 1K : 310 x 438 x 88<br>2K : 410 x 438 x 88<br>3K : 630 x 438 x 88 | 1K : 410 x 438 x 88<br>2K : 510 x 438 x 88<br>3K : 630 x 438 x 88    |
| Net Weight (kgs)  | 1K : 12.0<br>2K : 19.0<br>3K : 29.3                               | 1K : 11.6<br>2K : 19.5<br>3K : 27.4                                  |



## Off Line series

### Simple Solution for Home and Office Users

The Standby UPS provides comprehensive protection in a small and economic package. The UPS is more compact and offers greater comprehensive power protection against surges and spikes. This UPS will continue providing stable power to connect equipment and enable to shutdown PC safely during power failure. Its embedded microprocessor controller guarantees high reliability and it's perfect for any home or small office application.



#### General Features /

- Compact size with stand and mounting flexibility
- Excellent microprocessor controller guarantees high reliability
- Auto restart while AC is recovering
- Simulated sine wave output
- Cold start function
- Full protection: discharge, overcharge, short circuit and thermal protection

### Features

- Compact size with stand and mounting flexibility
- Excellent microprocessor control guarantees high reliability
- Auto restart while AC is recovering
- Simulated sine wave
- Cold start function



| MODEL                              | NANO 400                                      | NANO 600      | NANO 800      |
|------------------------------------|---|---------------|---------------|
| <b>CAPACITY</b>                    | 400VA / 240W                                  | 600VA / 360W  | 800VA / 480W  |
| <b>INPUT</b>                       |   |               |               |
| Voltage                            | 220 / 230 / 240Vac                            |               |               |
| Voltage Range                      | 180-270Vac                                    |               |               |
| Frequency Range                    | 50Hz (auto sensing)                           |               |               |
| <b>OUTPUT</b>                      |   |               |               |
| AC Voltage Regulation (Batt. Mode) | ±10%  |               |               |
| Frequency Range (Batt. Mode)       | 50Hz ±1 Hz                                    |               |               |
| Transfer Time                      | Typical 2-6 ms                                |               |               |
| Waveform (Batt. Mode)              | Simulated Sine Wave                           |               |               |
| <b>BATTERY</b>                     |   |               |               |
| Battery Type & Number              | 12V / 4.5Ah x 1                               | 12V / 7Ah x 1 | 12V / 9Ah x 1 |
| Typical Recharge Time              | 8 hours up to 90% capacity                    |               |               |
| <b>INDICATORS</b>                  |   |               |               |
| AC Mode                            | Green lighting                                |               |               |
| Battery Mode                       | Green flashing                                |               |               |
| <b>ALARM</b>                       |   |               |               |
| Battery Mode                       | Beeps every 10 seconds                        |               |               |
| Low Battery                        | Beeps every second                            |               |               |
| Fault                              | Continuously beeping                          |               |               |
| <b>PROTECTION</b>                  |   |               |               |
| Full Protection                    | Overload, discharge and overcharge protection |               |               |
| <b>PHYSICAL</b>                    |   |               |               |
| Dimension, D x W x H (mm)          | 228 x 82.5 x 207 (Vertically stand)           |               |               |
| Net Weight (kgs)                   | 2.2   | 2.7           | 3.1           |
| <b>ENVIRONMENT</b>                 |   |               |               |
| Humidity                           | 0-90% RH @ 0- 40°C (non-condensing)           |               |               |
| Noise Level                        | Less than 40dB                                |               |               |

\* Product specifications are subject to change without further notice



### Features

- 600VA / 800VA Standby UPS
- Compact size for standalone and mounting flexibility
- Excellent microprocessor control guarantees high reliability
- Auto restart while AC is recovering
- Simulated sine wave output
- Cold start function
- Optional USB communication port
- Optional 5V USB charger
- Optional RJ11 and coax surge protection
- Optional LCD version is also available upon request



| MODEL                              | NanoFit 600                                   | NanoFit 800   |
|------------------------------------|---|---------------|
| <b>CAPACITY</b>                    | 600VA / 360W                                  | 800VA / 480W  |
| <b>INPUT</b>                       |   |               |
| Voltage                            | 220 / 230 / 240Vac                            |               |
| Acceptable Voltage Range           | 180-270Vac                                    |               |
| Frequency Range                    | 60Hz / 50Hz (Auto sensing)                    |               |
| <b>OUTPUT</b>                      |   |               |
| Output Voltage                     | 220 / 230 / 240Vac                            |               |
| AC Voltage Regulation (Batt. Mode) | ±10%  |               |
| Frequency Range (Batt. Mode)       | 60Hz or 50Hz ±1Hz                             |               |
| Transfer Time                      | Typical 2-6 ms, Max. 10ms                     |               |
| Waveform (Batt. Mode)              | Simulated Sinewave                            |               |
| <b>BATTERY</b>                     |   |               |
| Battery Type & Numbe               | 12V / 4.5Ah x 1                               | 12V / 5Ah x 1 |
| Typical Recharge Time              | 8 hours recover to 90% capacity               |               |
| <b>INDICATORS</b>                  |   |               |
| Line Mode                          | Green lighting                                |               |
| Battery Mode                       | Yellow flashing                               |               |
| Fault                              | Red lighting                                  |               |
| <b>ALARM</b>                       |   |               |
| Battery Mode                       | Beeps every 10 seconds                        |               |
| Low Battery                        | Beeps every second                            |               |
| Overload                           | Beeps every 0.5 seconds                       |               |
| Fault                              | Continuously beeping                          |               |
| <b>PROTECTION</b>                  |   |               |
| Full Protection                    | Overload, discharge and overcharge protection |               |
| <b>PHYSICAL</b>                    |   |               |
| Dimension, D x W x H (mm)          | 305 x 158.5 x 95 mm                           |               |
| Net Weight (kgs)                   | 2.6   | 2.9           |
| <b>ENVIRONMENT</b>                 |   |               |
| Humidity                           | 0-90% RH @ 0- 40°C (non-condensing)           |               |
| Noise Level                        | Less than 40dB                                |               |

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## Line Interactive series

### Advanced UPS Solution for Home and Office Users

This Series protect your power issue on personal computers. It provides comprehensive protection in a small and economic package. Not only offering greater comprehensive power protection against surges and spikes, it also provides pure voltage with built-in AVR stabilizer. The UPS will continue providing clean and stable power to connect equipment while its embedded microprocessor controller guarantees high reliability, perfect for any home or small office application.



TV / Monitor



Mini Servers



Desktop

#### General Features /

- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- Generator compatible(option)

# Line Interactive | FP

## 600/800/1000/1500/2000

### Features

- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- Generator compatible (option)



| MODEL                              | FP 600  | FP 800               | FP 1K  | FP 1.5K                                      | FP 2K  |
|------------------------------------|---|----------------------|--|--|--|
| <b>CAPACITY</b>                    | 600VA / 360W                                  | 800VA / 480W         | 1000VA / 600W                                | 1500VA / 900W                                | 2000VA / 1200W                               |
| <b>INPUT</b>                       |   |                      |  |  |  |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac            |                      |  |  |  |
| Voltage Range                      | 81-145Vac / 162-290Vac                        |                      |  |  |  |
| Frequency Range                    | 60 / 50Hz (auto sensing)                      |                      |  |  |  |
| <b>OUTPUT</b>                      |   |                      |  |  |  |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac            |                      |  |  |  |
| AC Voltage Regulation (Batt. Mode) | ±10%  |                      |  |  |  |
| Frequency Range (Batt. Mode)       | 60Hz or 50Hz ±1 Hz                            |                      |  |  |  |
| Transfer Time                      | Typical 2-6 ms                                |                      |  |  |  |
| Waveform (Batt. Mode)              | Simulated Sinewave                            |                      |  |  |  |
| <b>BATTERY</b>                     |   |                      |  |  |  |
| Battery Type & Number              | 12V / 7Ah x 1                                 | 12V / 9Ah x 1        | 12V / 7Ah x 2                                | 12V / 9Ah x 2                                | 12V / 9Ah x 2                                |
| Typical Recharge Time              | 4 hours recover to 90% capacity               |                      | 4-6 hours recover to 90% capacity            |  |  |
| <b>INDICATORS</b>                  |   |                      |  |  |  |
| AC Mode                            | Green lighting                                |                      | Green lighting                               |  | Green lighting                               |
| Battery Mode                       | Green flashing                                |                      | Yellow flashing                              |  | Yellow flashing                              |
| Fault                              | N/A   |                      | Red lighting                                 |  | Red lighting                                 |
| <b>ALARM</b>                       |   |                      |  |  |  |
| Battery Mode                       | Beeps every 10 seconds                        |                      |  |  |  |
| Low Battery                        | Beeps every second                            |                      |  |  |  |
| Overload                           | Beeps every 0.5 seconds                       |                      |  |  |  |
| Fault                              | Continuously beeping                          |                      |  |  |  |
| <b>PROTECTION</b>                  |   |                      |  |  |  |
| Full Protection                    | Overload, discharge and overcharge protection |                      |  |  |  |
| <b>PHYSICAL</b>                    |   |                      |  |  |  |
| Dimension, D x W x H (mm)          | 279 x 101 x 142                               |                      |  | 320 x 130 x 182                              |  |
| Net Weight (kgs)                   | 4.25  | 4.9                  | 8.2  | 10.4   | 11   |
| <b>ENVIRONMENT</b>                 |   |                      |  |  |  |
| Humidity                           | 0-90% RH @ 0- 40°C (non-condensing)           |                      |  |  |  |
| Noise Level                        | Less than 40dB                                |                      |  |  |  |
| <b>BACKUP TIME</b>                 |   |                      |  |  |  |
| Battery Config.                    | 7.0Ah x 1                                     | 9.0Ah x 1            | 7.0Ah x 2                                    | 9.0Ah x 2                                    | 9.0Ah x 2                                    |
| Backup time                        | 19 mins                                       | 20 mins              | 18 mins                                      | 18 mins                                      | 15 mins                                      |
| Load Condition                     | Mac book 15" (90W)*1                          | Mac book 13" (60W)*2 | Mac book 13" (60W)*1<br>Mac book 15" (90W)*1 | Mac book 13" (60W)*2<br>Mac book 15" (90W)*1 | Mac book 13" (60W)*2<br>Mac book 15" (90W)*2 |

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### Features

- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave output
- Off-mode charging
- Cold start function
- Generator compatible (option)
- Optional 5V USB charging port



| MODEL                              | Eco 400   | Eco 600              | Eco 800              |
|------------------------------------|---|----------------------|----------------------|
| <b>CAPACITY</b>                    | 400VA / 240W  | 600VA / 360W         | 800VA / 480W         |
| <b>INPUT</b>                       |   |                      |                      |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac                            |                      |                      |
| Voltage Range                      | 81-134Vac / 89-145Vac or 162-268Vac / 170-280Vac / 177-290Vac |                      |                      |
| Frequency Range                    | 60 / 50Hz (auto sensing)                                      |                      |                      |
| <b>OUTPUT</b>                      |   |                      |                      |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac                            |                      |                      |
| AC Voltage Regulation (Batt. Mode) | ±10%  |                      |                      |
| Frequency Range (Batt. Mode)       | 60Hz or 50Hz ± 1Hz  |                      |                      |
| Transfer Time                      | 2-6 ms typical, 10 ms max                                     |                      |                      |
| Waveform (Batt. Mode)              | Simulated Sinewave  |                      |                      |
| <b>BATTERY</b>                     |   |                      |                      |
| Battery Type & Number              | 12V / 4.5Ah x 1   | 12V / 5Ah x 1        | 12V / 5Ah x 1        |
| Typical Recharge Time              | 4-6 hours recover to 90% capacity                             |                      |                      |
| <b>INDICATORS</b>                  |   |                      |                      |
| AC Mode                            | Blue lighting   |                      |                      |
| Battery Mode                       | Blue flashing   |                      |                      |
| <b>ALARM</b>                       |   |                      |                      |
| Battery Mode                       | Beeps every 10 seconds  |                      |                      |
| Low Battery                        | Beeps every second  |                      |                      |
| Overload                           | Beeps every 0.5 seconds                                       |                      |                      |
| Fault                              | Continuously beeping  |                      |                      |
| <b>PROTECTION</b>                  |   |                      |                      |
| Full Protection                    | Overload, discharge, and overcharge protection                |                      |                      |
| <b>PHYSICAL</b>                    |   |                      |                      |
| Dimension, D x W x H (mm)          | 245 x 163 x 90  |                      |                      |
| Net Weight (kgs)                   | 3.5   | 4                    | 4.5                  |
| <b>ENVIRONMENT</b>                 |   |                      |                      |
| Humidity                           | 0-90% RH @ 0- 40°C (non-condensing)                           |                      |                      |
| Noise Level                        | Less than 40dB  |                      |                      |
| <b>BACKUP TIME</b>                 |   |                      |                      |
| Battery Config.                    | 4.5Ah x 1   | 5.0Ah x 1            | 5.0Ah x 1            |
| Backup time                        | 10 mins   | 14 mins              | 20 mins              |
| Load Condition                     | Mac book 13" (60W)*1  | Mac book 15" (60W)*1 | Mac book 13" (60W)*1 |

\* Product specifications are subject to change without further notice

# Line Interactive | iFP

## 600/800/1000/1500/2000

### Features

- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- Generator compatible(option)
- Built-in USB communication port and RJ network protection
- Touch screen LCD to display UPS information circularly



t2b



| MODEL                              | iFP 600                                       | iFP 800              | iFP 1000                                     | iFP 1500                                     | iFP 2000                                     |
|------------------------------------|---|----------------------|--|--|--|
| <b>CAPACITY</b>                    | 600VA / 360W                                  | 800VA / 480W         | 1000VA / 600W                                | 1500VA / 900W                                | 2000VA / 1200W                               |
| <b>INPUT</b>                       |   |                      |  |  |  |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac            |                      |  |  |  |
| Voltage Range                      | 81-145Vac / 140-290Vac                        |                      |  |  |  |
| Frequency Range                    | 60 / 50Hz (auto sensing)                      |                      |  |  |  |
| <b>OUTPUT</b>                      |   |                      |  |  |  |
| Voltage                            | 110 / 120Vac or 220 / 230 / 240Vac            |                      |  |  |  |
| AC Voltage Regulation (Batt. Mode) | ±10%  |                      |  |  |  |
| Frequency Range (Batt. Mode)       | 60Hz or 50Hz ± 1Hz                            |                      |  |  |  |
| Transfer Time                      | Typical 2-6 ms                                |                      |  |  |  |
| Waveform (Batt. Mode)              | Simulated Sinewave                            |                      |  |  |  |
| <b>BATTERY</b>                     |   |                      |  |  |  |
| Battery Type & Number              | 12V / 7Ah x 1                                 | 12V / 9Ah x 1        | 12V / 7Ah x 2                                | 12V / 9Ah x 2                                | 12V / 9Ah x 2                                |
| Typical Recharge Time              | 4 hours recover to 90% capacity               |                      | 4-6 hours recover to 90% capacity            |  |  |
| <b>INDICATORS</b>                  |   |                      |  |  |  |
| LCD Display                        | Digital information                           |                      |  |  |  |
| <b>ALARM</b>                       |   |                      |  |  |  |
| Battery Mode                       | Beeps every 10 seconds                        |                      |  |  |  |
| Low Battery                        | Beeps every second                            |                      |  |  |  |
| Overload                           | Beeps every 0.5 seconds                       |                      |  |  |  |
| Fault                              | Continuously beeping                          |                      |  |  |  |
| <b>PROTECTION</b>                  |   |                      |  |  |  |
| Full Protection                    | Overload, discharge and overcharge protection |                      |  |  |  |
| <b>PHYSICAL</b>                    |   |                      |  |  |  |
| Dimension, D x W x H (mm)          | 300 x 101 x 142                               |                      |  | 320 x 130 x 182                              |  |
| Net Weight (kgs)                   | 4.25  | 4.9                  | 8.2  | 10.4   | 11   |
| <b>ENVIRONMENT</b>                 |   |                      |  |  |  |
| Humidity                           | 0-90% RH @ 0- 40°C (non-condensing)           |                      |  |  |  |
| Noise Level                        | Less than 40dB                                |                      |  |  |  |
| <b>BACKUP TIME</b>                 |   |                      |  |  |  |
| Battery Config.                    | 7.0Ah x 1                                     | 9.0Ah x 1            | 7.0Ah x 2                                    | 9.0Ah x 2                                    | 9.0Ah x 2                                    |
| Backup time                        | 19 mins                                       | 20 mins              | 18 mins                                      | 18 mins                                      | 15 mins                                      |
| Load Condition                     | Mac book 15" (90W)*1                          | Mac book 13" (60W)*2 | Mac book 13" (60W)*1<br>Mac book 15" (90W)*1 | Mac book 13" (60W)*2<br>Mac book 15" (90W)*1 | Mac book 13" (60W)*2<br>Mac book 15" (90W)*2 |

\* Product specifications are subject to change without further notice



### LCD Display Information

### Operation Display

| UPS Mode                 | LCD | UPS Mode  |
|--------------------------|-----|---|
| UPS Power on             |     | When UPS is powered on, it will enter this mode for 4 seconds.  |
| AC Mode                  |     | LCD information will be displayed in the following order when LCD is touched.<br>1. Output voltage<br>2. Input voltage<br>3. Load level<br>4. Battery capacity                                      |
| Overload in AC mode      |     | When overload occurs, alarm will beep every 0.5 seconds.<br>icon will flash.  |
| Battery Mode             |     | Alarm will beep every 10 seconds and LCD information will be displayed in the following order when LCD is touched.<br>1. Output voltage<br>2. Input voltage<br>3. Load level<br>4. Battery capacity |
| Overload in battery mode |     | When overload occurs, alarm will beep every 0.5 seconds.<br>icon will flash.  |

### Features

- Microprocessor-based line interactive design
- Pure sine wave output
- User-friendly and easy-shift LCD display
- Rack/Tower design
- Built-in boost and buck AVR
- Output power factor 0.9
- Hot-swappable battery design
- Programmable power management outlets
- ECO operation for energy saving (Efficiency Corrective Optimizer)
- Emergency Power Off Function (EPO)
- Long-run models available
- Multiple communication available



| MODEL                           | EUFO 800   | EUFO 1.1K(L)                    | EUFO1.5K          | EUFO 2K(L)     | EUFO2.5K          | EUFO 3K(L)     |                   |
|---------------------------------|--|---------------------------------|-------------------|----------------|-------------------|----------------|-------------------|
| <b>CAPACITY</b>                 | 800VA / 720W   | 1100VA / 990W                   | 1500VA / 1350W    | 2000VA / 1800W | 2500VA / 2250W    | 3000VA / 2700W |                   |
| <b>INPUT</b>                    |  |                                 |                   |                |                   |                |                   |
| Nominal Voltage                 | 208 / 220 / 230 / 240Vac   |                                 |                   |                |                   |                |                   |
| Voltage Range                   | 162-290Vac   |                                 |                   |                |                   |                |                   |
| Frequency Range                 | 60 / 50Hz (Auto sensing)   |                                 |                   |                |                   |                |                   |
| <b>OUTPUT</b>                   |  |                                 |                   |                |                   |                |                   |
| Output Voltage                  | 208 / 220 / 230 / 240Vac   |                                 |                   |                |                   |                |                   |
| Voltage Regulation (Batt. Mode) | ± 1.5% (Before battery alarm)  |                                 |                   |                |                   |                |                   |
| Frequency Range (Batt. Mode)    | 50Hz or 60Hz ± 1Hz   |                                 |                   |                |                   |                |                   |
| Current Crest Ratio             | 3:1  |                                 |                   |                |                   |                |                   |
| Harmonic Distortion             | 2% max @ 100% linear load, 5% max @ 100% non-linear load (before low battery alarm)                              |                                 |                   |                |                   |                |                   |
| Transfer Time                   | Typical 2-6ms, 10ms max.   |                                 |                   |                |                   |                |                   |
| Waveform (Batt. Mode)           | Pure Sinewave  |                                 |                   |                |                   |                |                   |
| <b>EFFICIENCY</b>               |  |                                 |                   |                |                   |                |                   |
| To AC Mode                      | 97%  |                                 | 97%               |                | 97%               |                |                   |
| Buck & Boost Mode               | 95%  |                                 | 95%               |                | 95%               |                |                   |
| To Battery Mode                 | 90%  |                                 | 91%               |                | 92%               |                |                   |
| <b>BATTERY</b>                  |  |                                 |                   |                |                   |                |                   |
| Standard Model                  | Battery Type   | 12V / 7Ah                       | 12V / 9Ah         | 12V / 7Ah      | 12V / 9Ah         | 12V / 7Ah      | 12V / 9Ah         |
|                                 | Numbers  | 2                               | 2                 | 4              | 4                 | 6              | 6                 |
|                                 | Typical Recharge Time  | 4 hours recover to 90% capacity |                   |                |                   |                |                   |
| Long-run Model                  | Charging Current (max.)  | 27.4Vdc ± 1%                    |                   | 54.8Vdc ± 1%   |                   | 82.1Vdc ± 1%   |                   |
|                                 | Charging Current (max.)  | N/A                             | 1A / 2A / 4A / 8A | N/A            | 1A / 2A / 4A / 8A | N/A            | 1A / 2A / 4A / 8A |
|                                 | Float Charging Voltage   | N/A                             | 27.4Vdc ± 1%      | N/A            | 54.8Vdc ± 1%      | N/A            | 82.1Vdc ± 1%      |
| <b>INDICATORS</b>               |  |                                 |                   |                |                   |                |                   |
| LCD Display                     | AC mode, Battery mode, Load level, Battery level, Input Voltage, Output Voltage, Overload, Fault and Low Battery |                                 |                   |                |                   |                |                   |
| <b>ALARM</b>                    |  |                                 |                   |                |                   |                |                   |
| Battery Mode                    | Beeps every 10 seconds   |                                 |                   |                |                   |                |                   |
| Low Battery                     | Beeps every 2 seconds  |                                 |                   |                |                   |                |                   |
| Overload                        | Beeps every second   |                                 |                   |                |                   |                |                   |
| Fault                           | Continuously beeping   |                                 |                   |                |                   |                |                   |
| <b>PROTECTION</b>               |  |                                 |                   |                |                   |                |                   |
| Full Protection                 | Overload, discharge and overcharge protection  |                                 |                   |                |                   |                |                   |
| <b>PHYSICAL</b>                 |  |                                 |                   |                |                   |                |                   |
| Standard Model                  | Dimension, D x W x H (mm)  | 410 x 438 x 88                  |                   | 510 x 438 x 88 |                   | 630 x 438 x 88 |                   |
|                                 | Net Weight (kgs)   | 12.9                            | 13.4              | 19.5           | 21.5              | 27.7           | 29.3              |
| Long-run Model                  | Dimension, D x W x H (mm)  | N/A                             | 410 x 438 x 88    | N/A            | 410 x 438 x 88    | N/A            | 410 x 438 x 88    |
|                                 | Net Weight (kgs)   | N/A                             | 9                 | N/A            | 10.8              | N/A            | 11.9              |
| <b>ENVIRONMENT</b>              |  |                                 |                   |                |                   |                |                   |
| Humidity                        | 0-90% RH @ 0- 40°C (non-condensing)  |                                 |                   |                |                   |                |                   |
| Noise Level                     | Less than 45dB   |                                 |                   |                |                   |                |                   |
| <b>MANAGEMENT</b>               |  |                                 |                   |                |                   |                |                   |
| Smart RS-232 / USB              | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10, Linux, Unix and MAC                              |                                 |                   |                |                   |                |                   |
| Optional SNMP                   | Power management from SNMP manager and web browser   |                                 |                   |                |                   |                |                   |

\* Product specifications are subject to change without further notice \* Derate capacity to 80% of capacity when the output voltage is adjusted to 208Vac

### Microprocessor-based line interactive design

Eufo series UPS is designed with microprocessor controller for fast response to power disturbances.

### Pure sine wave output

With pure sine wave output, Eufo series guarantees compatibility for all kinds of loads. It's perfect power protection for versatile applications such as networking, telecom and other mission-critical applications.

### User-friendly and easy-shift LCD display

The front panel digital display can be easily shifted through LCD setting to suit the installation format, vertically stand or flat wall mount.



### Rack / Tower design

Eufo series is designed in true universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.



19" rack-mounting



Floor-standing Tower

### Built-in boost and buck AVR

With built-in voltage regulator, the UPS will maintain regulated nominal output without using battery power during brownouts and overvoltages.

### Output power factor 0.9

Eufo series is a high-density UPS with output power factor 0.9 to provide higher performance and efficiency to critical applications.

### Programmable power management

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature will extend battery time to mission critical devices by shutting down the non-critical devices.



Programmable Outlets (P1) connect to non-critical devices

### 50 / 60 Hz frequency converter mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

### ECO operation for energy saving (Efficiency Corrective Optimizer)

The ECO function allows cost-effective operation of UPS Systems as high as 98%. In this operation mode, load is supplied by the mains. When battery is fully charged, the fan will stop running for energy saving. In the event of a mains failure, the inverter takes over the load and provides supply continuity to the connected systems.



### Emergency Power Off function (EPO)

This feature can secure the personnel and equipment in case of fires or other emergencies.

### Hot-swappable battery design

This design ensures clean and uninterruptible power to protected equipment during battery replacement.



### Extend battery capacity Function

Eufo series offer extend battery capacity function for long back up time purpose.



### RJ-45 Surge protector

Eufo Series implements RJ-45 Surge Protection ports to prevent Ethernet network damage caused by lightning or ground surges.

### Multiple communication

- USB port
- RS-232 port
- Intelligent slot for SNMP or Relay Card (option)

Also offer free monitoring software, ViewPower, downloaded from the internet. This advanced and networking software supports various operating systems and multiple languages.







## On Line series

### Reliable UPS Solution for Wide Information Technology Application

On Line Series is specifically designed for operation in poor power areas. Built-in internal battery and extend battery connector in tower model, user can extend autonomy time via plug and play battery design. The Reliable design is ideal for Banking, ATM and other business critical application.



#### General Features /

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction  $\geq 0.99$
- Output power factor 0.9
- Wide input voltage (110V–300V)
- Converter mode available
- ECO mode for energy saving
- Generator compatible
- SNMP Function operate with USB or RS-232 synchronizingly
- Comprehensive LCD Display for access & setting

### Features

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Output power factor 0.9
- Wide input voltage (110V - 300V)
- Converter mode available
- ECO mode for energy saving(Only available for 1-3kVA)
- Adjustable battery string numbers only available for 6K / 10K models
- Adjustable charging current via LCD or software (1A~6A)
- Emergency power off function (EPO) only available for 6K / 10K models
- Generator compatible
- Smart SNMP works well with either USB or RS-233 together
- Comprehensive LCD display allows easy monitoring and access of UPS status



| MODEL                                | Champ 1K   | Champ 2K  | Champ 3K        | Champ 6K  | Champ 10K                          |
|--------------------------------------|--|---|-----------------|---|------------------------------------|
| PHASE                                | Single phase with ground   |   |                 |   |                                    |
| CAPACITY                             | 1000VA / 900W  | 2000VA / 1800W                                  | 3000VA / 2700W  | 6000VA / 5400W  | 10000VA / 9000W                    |
| INPUT                                |  |   |                 |   |                                    |
| Nominal Voltage                      | 200 / 208 / 220 / 230 / 240Vac   |   |                 | 208 / 220 / 230 / 240Vac  |                                    |
| Voltage Range                        | 110-300Vac (Based on load at 50%)<br>160-280Vac (Based on load at 100%)                        |   |                 | 110-300Vac (Based on load at 50%)<br>176-300Vac (Based on load at 100%) |                                    |
| Frequency Range                      | 40~70Hz  |   |                 | 46~54Hz or 56~64Hz  |                                    |
| Power Factor                         | ≥ 0.99 @ Nominal Voltage (100% load)   |   |                 |   |                                    |
| OUTPUT                               |  |   |                 |   |                                    |
| Output Voltage                       | 200 / 208 / 220 / 230 / 240Vac   |   |                 | 208 / 220 / 230 / 240Vac  |                                    |
| Voltage Regulation                   | ± 1%   |   |                 |   |                                    |
| Frequency Range (Synchronized Range) | 47~53Hz or 57~63Hz   |   |                 | 46~54Hz or 56~64Hz  |                                    |
| Frequency Range (Batt. Mode)         | 50Hz ± 0.25Hz or 60Hz ± 0.3Hz  |   |                 | 50Hz or 60Hz ± 0.1Hz  |                                    |
| Inverter Crest Ratio                 | 3:1  |   |                 |   |                                    |
| Harmonic Distortion (THDv)           | ≤ 3% THD (Linear Load)<br>≤ 6% THD (Non-linear Load)   |   |                 | ≤ 3% THD (Linear Load)<br>≤ 5% THD (Non-linear Load)                    |                                    |
| Transfer Time                        | AC Mode to Battery Mode<br>Inverter to Bypass  |   | Zero            |   | Zero                               |
| Waveform (Batt. Mode)                | 4 ms (Typical)   |   |                 | Pure Sinewave   |                                    |
| EFFICIENCY                           |  |   |                 |   |                                    |
| AC Mode                              | 88%  | 88%   | 90%             | 92%   | 93%                                |
| Battery Mode                         | 83%  | 87%   | 88%             | 90%   | 91%                                |
| BATTERY                              |  |   |                 |   |                                    |
|                                      | Battery Type   | 12V / 9Ah                                       | 12V / 9Ah       | 12V / 9Ah   | 12V / 9Ah                          |
| Standard Model                       | Numbers in string  | 2   | 4               | 6   | 16                                 |
|                                      | Typical Recharge Time  | 4 hours recover to 90% capacity                 |                 |   | 9 hours recover to 90% capacity    |
|                                      | Charging Current (max.)  | 1.0A  |                 |   | 1A / 2A (Adjustable)               |
|                                      | Charging Voltage   | 27.4Vdc ± 1%                                    | 54.7Vdc ± 1%    | 82.1Vdc ± 1%  | 218.4Vdc ± 1%                      |
| Long-run Model                       | Battery Type   | Depending on the capacity of external batteries |                 |   |                                    |
|                                      | Numbers in string  | 2   | 4               | 6   | 16                                 |
|                                      | Charging Current (max.)  | 1A / 2A / 4A / 6A (Adjustable)                  |                 |   | 1A / 2A / 4A / 6A (Adjustable)     |
|                                      | Charging Voltage   | 27.4Vdc ± 1%                                    | 54.7Vdc ± 1%    | 82.1Vdc ± 1%  | 218.4Vdc ± 1%                      |
| INDICATORS                           |  |   |                 |   |                                    |
| LCD Panel                            | Load level, Battery level, Line mode, Battery mode, Bypass mode, ECO mode and Fault indicators |   |                 |   |                                    |
| ALARM                                |  |   |                 |   |                                    |
| Battery Mode                         | Beeps every 4 seconds  |   |                 |   |                                    |
| Low Battery                          | Beeps every second   |   |                 |   |                                    |
| Overload                             | Beeps twice per second   |   |                 |   |                                    |
| Fault                                | Continuously beeping   |   |                 |   |                                    |
| PHYSICAL                             |  |   |                 |   |                                    |
| Standard Model                       | Dimension, D x W x H (mm)  | 282 x 145 x 220                                 | 397 x 145 x 220 | 421 x 190 x 318   | 369 x 190 x 688                    |
|                                      | Net Weight (kgs)   | 9.8   | 17              | 27.6  | 61                                 |
| Long-run Model                       | Dimension, D x W x H (mm)  | 282 x 145 x 220                                 | 397 x 145 x 220 | 397 x 145 x 220   | 369 x 190 x 318                    |
|                                      | Net Weight (kgs)   | 4.1   | 6.8             | 7.4   | 12                                 |
| ENVIRONMENT                          |  |   |                 |   |                                    |
| Humidity                             | 20-90% RH @ 0-40°C (non-condensing)  |   |                 | 0-95% RH @ 0-50°C (non-condensing)                                      | 0-95% RH @ 0-40°C (non-condensing) |
| Noise Level                          | Less than 50dBA @ 1 Meter  |   |                 | Less than 55dBA @ 1 Meter   | Less than 58dBA @ 1 Meter          |
| MANAGEMENT                           |  |   |                 |   |                                    |
| Smart RS-232 / USB                   | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10, Linux and MAC                  |   |                 |   |                                    |
| Optional SNMP                        | Power management from SNMP manager and web browser   |   |                 |   |                                    |

\* In Frequency converter mode, the output capacity derate to 80% with output voltage adjusted to 200 / 208Vac

\* Long-run model power factor: 0.8

\* Product specifications are subject to change without further notice

### Features

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Output power factor 0.9
- Wide input voltage (110V - 300V)
- Converter mode available
- ECO mode for energy saving
- Adjustable charging current via LCD or software (1A~6A)
- Generator compatible
- Smart SNMP works well with either USB or RS-232 together
- Comprehensive LCD display allows easy monitoring and access of UPS status



| MODEL                                | Champ RM 1K(L)   |   | Champ RM 2K(L) |                | Champ RM 3K(L) |                |  |
|--------------------------------------|--|---|----------------|----------------|----------------|----------------|--|
| PHASE                                | Single phase with ground   |   |                |                |                |                |  |
| CAPACITY                             | 1000VA / 900W  |   | 2000VA / 1800W |                | 3000VA / 2700W |                |  |
| <b>INPUT</b>                         |  |   |                |                |                |                |  |
| Nominal Voltage                      | 110 / 115 / 120 / 127Vac or 208 / 220 / 230 / 240Vac                               |   |                |                |                |                |  |
| Input Voltage Range                  | 60-145Vac or 120-300Vac at 50% load<br>90-145Vac or 180-300Vac at 100% load        |   |                |                |                |                |  |
| Frequency Range                      | 40~70Hz  |   |                |                |                |                |  |
| Power Factor                         | ≥ 0.99 @ Nominal Voltage (100% load)   |   |                |                |                |                |  |
| <b>OUTPUT</b>                        |  |   |                |                |                |                |  |
| Output Voltage                       | 110 / 115 / 120 / 127Vac or 208 / 220 / 230 / 240Vac                               |   |                |                |                |                |  |
| Voltage Regulation                   | ± 1%   |   |                |                |                |                |  |
| Frequency Range (Synchronized Range) | 47~53Hz or 57~63Hz   |   |                |                |                |                |  |
| Frequency Range (Batt. Mode)         | 50Hz ± 0.25Hz or 60Hz ± 0.3Hz  |   |                |                |                |                |  |
| Current Crest Ratio                  | 3:1  |   |                |                |                |                |  |
| Harmonic Distortion                  | ≤ 3% THD (Linear Load) / ≤ 6% THD (Non-linear Load)                                |   |                |                |                |                |  |
| Transfer Time                        | AC Mode to Batt. Mode  | Zero  |                |                |                |                |  |
|                                      | Inverter to Bypass   | 4 ms (Typical)                                  |                |                |                |                |  |
| Waveform (Batt. Mode)                | Pure Sinewave  |   |                |                |                |                |  |
| <b>EFFICIENCY</b>                    |  |   |                |                |                |                |  |
| AC Mode                              | 88%  |   | 89%            |                | 90%            |                |  |
| Battery Mode                         | 83%  |   | 87%            |                | 88%            |                |  |
| <b>BATTERY</b>                       |  |   |                |                |                |                |  |
| Standard Model                       | Battery Type   | 12V / 9Ah                                       |                | 12V / 9Ah      |                | 12V / 9Ah      |  |
|                                      | Numbers  | 2   |                | 4              |                | 6              |  |
|                                      | Typical Recharge Time  | 4 hours recover to 90% capacity                 |                |                |                |                |  |
|                                      | Charging Current (max.)  | 1.0A  |                |                |                |                |  |
| Long-run Model                       | Charging Voltage   | 27.4Vdc ± 1%                                    |                | 54.7Vdc ± 1%   |                | 82.1Vdc ± 1%   |  |
|                                      | Battery Type   | Depending on the capacity of external batteries |                |                |                |                |  |
|                                      | Numbers  | 2   |                | 3              |                | 4              |  |
|                                      | Charging Current (max.)  | 1A / 2A / 4A / 6A (Adjustable)                  |                |                |                |                |  |
|                                      | Charging Voltage   | 27.4Vdc ± 1%                                    |                | 41.0Vdc ± 1%   |                | 54.7Vdc ± 1%   |  |
|                                      |  |   |                | 82.1Vdc ± 1%   |                | 109.4Vdc ± 1%  |  |
|                                      |  |   |                |                |                | 82.1Vdc ± 1%   |  |
|                                      |  |   |                |                |                | 109.4Vdc ± 1%  |  |
| <b>INDICATORS</b>                    |  |   |                |                |                |                |  |
| LCD Panel                            | Load level, Battery level, AC mode, Battery mode, Bypass mode and Fault indicators |   |                |                |                |                |  |
| <b>ALARM</b>                         |  |   |                |                |                |                |  |
| Battery Mode                         | Beeps every 4 seconds  |   |                |                |                |                |  |
| Low Battery                          | Beeps every second   |   |                |                |                |                |  |
| Overload                             | Beeps twice every second   |   |                |                |                |                |  |
| Fault                                | Continuously beeping   |   |                |                |                |                |  |
| <b>PHYSICAL</b>                      |  |   |                |                |                |                |  |
| Standard Model                       | Dimension, D x W x H (mm)  | 310 x 438 x 88                                  |                | 410 x 438 x 88 |                | 630 x 438 x 88 |  |
|                                      | Net Weight (kgs)   | 12  |                | 19             |                | 29.3           |  |
| Long-run Model*                      | Dimension, D x W x H (mm)  | 310 x 438 x 88                                  |                | 410 x 438 x 88 |                | 410 x 438 x 88 |  |
|                                      | Net Weight (kgs)   | 9   |                | 12             |                | 14.2           |  |
| <b>ENVIRONMENT</b>                   |  |   |                |                |                |                |  |
| Humidity                             | 20-90% RH @ 0- 40°C (non-condensing)   |   |                |                |                |                |  |
| Noise Level                          | Less than 50dBA @ 1 Meter  |   |                |                |                |                |  |
| <b>MANAGEMENT</b>                    |  |   |                |                |                |                |  |
| Smart RS-232 / USB                   | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8, Linux, Unix and MAC     |   |                |                |                |                |  |
| Optional SNMP                        | Power management from SNMP manager and web browser                                 |   |                |                |                |                |  |

\* 1K-3K: Derate to 80% of capacity in Frequency converter mode or when the output voltage is adjusted to 208Vdc.

\* Product specifications are subject to change without further notice

\* Long-run model power factor: 0.8

### Features

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Output power factor 0.9
- Wide input voltage (110V - 300V)
- Converter mode available
- Adjustable battery string numbers
- Adjustable charging current via LCD or software (1A~6A)
- Emergency power off function (EPO)
- Generator compatible
- Smart SNMP works well with either USB or RS-232 together
- Comprehensive LCD display allows easy monitoring and access of UPS status



| MODEL                                | Champ RM 6K(L)   |  | Champ RM 10K(L)  |  |  |
|--------------------------------------|--|--|--|--|--|
| PHASE                                | Single phase with ground   |  |  |  |  |
| CAPACITY                             | 6000VA / 5400W   |  | 10000VA / 9000W  |  |  |
| <b>INPUT</b>                         |  |  |  |  |  |
| Nominal Voltage                      | 208 / 220 / 230 / 240Vac   |  |  |  |  |
| Input Voltage Range                  | 110-300Vac (Based on load at 50%)<br>176-300Vac (Based on load at 100%)            |  |  |  |  |
| Frequency Range                      | 46Hz ~ 54Hz or 56Hz ~ 64Hz   |  |  |  |  |
| Power Factor                         | ≥ 0.99 @ Nominal Voltage (100% load)   |  |  |  |  |
| <b>OUTPUT</b>                        |  |  |  |  |  |
| Output Voltage                       | 208 / 220 / 230 / 240Vac   |  |  |  |  |
| Voltage Regulation                   | ± 1%   |  |  |  |  |
| Frequency Range (Synchronized Range) | 46Hz ~ 54Hz or 56Hz ~ 64Hz   |  |  |  |  |
| Frequency Range (Batt. Mode)         | 50Hz ± 0.1Hz or 60Hz ± 0.1Hz   |  |  |  |  |
| Current Crest Ratio                  | 3:1  |  |  |  |  |
| Harmonic Distortion                  | ≤ 3% THD (Linear Load) / ≤ 5% THD (Non-linear Load)                                |  |  |  |  |
| Transfer Time                        | AC Mode to Batt. Mode  | Zero   |  |  |  |
|                                      | Inverter to Bypass   | Zero   |  |  |  |
| Waveform (Batt. Mode)                | Pure Sinewave  |  |  |  |  |
| <b>EFFICIENCY</b>                    |  |  |  |  |  |
| AC Mode                              | 92%  |  | 93%  |  |  |
| Battery Mode                         | 90%  |  | 91%  |  |  |
| <b>BATTERY</b>                       |  |  |  |  |  |
|                                      | Battery Type   | 12V / 9Ah  |  |  |  |
| Standard Model                       | Numbers  | 16   | 20   | 16   | 20   |
|                                      | Typical Recharge Time  | 9 hours recover to 90% capacity  |  |  |  |
|                                      | Charging Current (max.)  | 1A / 2A (Adjustable)   |  |  |  |
|                                      | Charging Voltage   | 218.4Vdc ± 1%  | 273Vdc ± 1%  | 218.4Vdc ± 1%  | 273Vdc ± 1%  |
| Long-run Model                       | Battery Type   | Depending on applications  |  |  |  |
|                                      | Numbers  | 16-20pcs (Adjustable)  |  |  |  |
|                                      | Charging Current (max.)  | 1A / 2A / 4A / 6A (Adjustable, 6A is only available for 16pcs batteries) |  |  |  |
|                                      | Charging Voltage   | 218.4Vdc ± 1% (Based on 16pcs batteries)                                 |  |  |  |
| <b>INDICATORS</b>                    |  |  |  |  |  |
| LCD Panel                            | Load level, Battery level, AC mode, Battery mode, Bypass mode and Fault indicators |  |  |  |  |
| <b>ALARM</b>                         |  |  |  |  |  |
| Battery Mode                         | Beeps every 4 seconds  |  |  |  |  |
| Low Battery                          | Beeps every second   |  |  |  |  |
| Overload                             | Beeps twice every second   |  |  |  |  |
| Fault                                | Continuously beeping   |  |  |  |  |
| <b>PHYSICAL</b>                      |  |  |  |  |  |
| Standard Model                       | Dimension, D x W x H (mm)  | UPS Unit: 500 x 438 x 88 [2U]<br>Battery Pack: 668 x 438 x 88 [2U]       | UPS Unit: 500 x 438 x 88 [2U]<br>Battery Pack: 580 x 438 x 133 | UPS Unit: 580 x 438 x 133 [3U]<br>Battery Pack: 580 x 438 x 133 [3U] | UPS Unit: 580 x 438 x 133 [3U]<br>Battery Pack: 580 x 438 x 133 [3U] |
|                                      | Net Weight (kgs)   | UPS Unit: 15 Battery Pack: 48  | UPS Unit: 15 Battery Pack: 48                                  | UPS Unit: 18 Battery Pack: 51  | UPS Unit: 18 Battery Pack: 61  |
| Long-run Model*                      | Dimension, D x W x H (mm)  | 500 x 438 x 88 [2U]  |  | 580 x 438 x 133 [3U]   |  |
|                                      | Net Weight (kgs)   | 15   |  | 18   |  |
| <b>ENVIRONMENT</b>                   |  |  |  |  |  |
| Humidity                             | 0-90% RH @ 0- 40°C (non-condensing)  |  |  |  |  |
| Noise Level                          | Less than 55dBA @ 1 Meter  |  | Less than 58dBA @ 1 Meter                                      |  |  |
| <b>MANAGEMENT</b>                    |  |  |  |  |  |
| Smart RS-232 / USB                   | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8, Linux, Unix and MAC     |  |  |  |  |
| Optional SNMP                        | Power management from SNMP manager and web browser                                 |  |  |  |  |

\* 6K/10K: Derate to 60% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 208Vac.

\* Product specifications are subject to change without further notice

### Features

- True double-conversion online UPS
- Output power factor 0.9
- User-friendly and easy-shift LCD display
- Rack/Tower design
- Programmable power management outlets
- 50/60Hz frequency converter mode
- ECO and advanced ECO mode for energy saving
- Emergency power off function (EPO)
- Hot-swappable battery design



| MODEL                                | Custos 9X* 1K   | Custos 9X* 1K(L)   | Custos 9X* 1.5K                 | Custos 9X* 1.5K(L) | Custos 9X* 2K                   | Custos 9X* 2K(L)   | Custos 9X* 3K                   | Custos 9X* 3K(L)   |
|--------------------------------------|---|--------------------|---------------------------------|--------------------|---------------------------------|--------------------|---------------------------------|--------------------|
| PHASE                                | Single phase with ground  |                    |                                 |                    |                                 |                    |                                 |                    |
| CAPACITY                             | 1000VA / 900W   | 1000VA / 800W      | 1500VA / 1350W                  | 1500VA / 1200W     | 2000VA / 1800W                  | 2000VA / 1600W     | 3000VA / 2700W                  | 3000VA / 2400W     |
| <b>INPUT</b>                         |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Nominal Voltage                      | 100* / 110* / 115* / 120 / 127Vac or 200 / 208 / 220 / 230 / 240Vac                 |                    |                                 |                    |                                 |                    |                                 |                    |
| Voltage Range                        | 55-150Vac ± 5% or 110-300Vac ± 5%   |                    |                                 |                    |                                 |                    |                                 |                    |
| Frequency Range                      | 40~70Hz   |                    |                                 |                    |                                 |                    |                                 |                    |
| Phase                                | Single phase with ground  |                    |                                 |                    |                                 |                    |                                 |                    |
| Power Factor                         | ≥ 0.99 @ nominal voltage (100% load)  |                    |                                 |                    |                                 |                    |                                 |                    |
| <b>OUTPUT</b>                        |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Output Voltage                       | 100* / 110* / 115* / 120 / 127Vac or 200 / 208 / 220 / 230 / 240Vac                 |                    |                                 |                    |                                 |                    |                                 |                    |
| AC Voltage Regulation (Batt. Mode)   | ± 1%  |                    |                                 |                    |                                 |                    |                                 |                    |
| Frequency Range (Synchronized Range) | 47~53Hz or 57~63Hz  |                    |                                 |                    |                                 |                    |                                 |                    |
| Frequency Range (Batt. Mode)         | 50Hz ± 0.5% or 60Hz ± 0.5%  |                    |                                 |                    |                                 |                    |                                 |                    |
| Current Crest Ratio                  | 5:1 (max.)  |                    |                                 |                    |                                 |                    |                                 |                    |
| Harmonic Distortion                  | ≤ 2% THD (Linear Load); ≤ 4% THD (Non-linear Load)                                  |                    |                                 |                    |                                 |                    |                                 |                    |
| Transfer Time                        | AC Mode to Batt. Mode   |                    | Zero                            |                    | Inverter to Bypass              |                    | 4 ms (Typical)                  |                    |
| Waveform (Batt. Mode)                | Pure Sinewave   |                    |                                 |                    |                                 |                    |                                 |                    |
| <b>EFFICIENCY</b>                    |   |                    |                                 |                    |                                 |                    |                                 |                    |
| AC Mode                              | 87%   |                    | 88%                             |                    | 88%                             |                    | 89%                             |                    |
| ECO Mode                             | 94%   |                    | 95%                             |                    | 95%                             |                    | 97%                             |                    |
| Battery Mode                         | 85%   |                    | 86%                             |                    | 86%                             |                    | 87%                             |                    |
| <b>BATTERY</b>                       |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Battery Type                         | 12V / 9Ah   | Depending on       | 12V / 9Ah                       | Depending on       | 12V / 9Ah                       | Depending on       | 12V / 9Ah                       | Depending on       |
| Numbers                              | 2   | the capacity of    | 3                               | the capacity of    | 4                               | the capacity of    | 6                               | the capacity of    |
| Typical Recharge Time                | 4 hours recover to 90% capacity   | external batteries | 4 hours recover to 90% capacity | external batteries | 4 hours recover to 90% capacity | external batteries | 4 hours recover to 90% capacity | external batteries |
| Charging Current (max.)              | 1.0A  | 1A / 2A / 4A / 8A  | 1.0A                            | 1A / 2A / 4A / 8A  | 1.0A                            | 1A / 2A / 4A / 8A  | 1.0A                            | 1A / 2A / 4A / 8A  |
| Charging Voltage                     | 27.4Vdc ± 1%  |                    | 41.1Vdc ± 1%                    |                    | 54.7Vdc ± 1%                    |                    | 82.1Vdc ± 1%                    |                    |
| <b>INDICATORS</b>                    |   |                    |                                 |                    |                                 |                    |                                 |                    |
| LCD Panel                            | Load level, Battery level, AC mode, Battery mode, Bypass mode and Fault indicator   |                    |                                 |                    |                                 |                    |                                 |                    |
| <b>ALARM</b>                         |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Battery Mode                         | Beeps every 4 seconds   |                    |                                 |                    |                                 |                    |                                 |                    |
| Low Battery                          | Beeps every second  |                    |                                 |                    |                                 |                    |                                 |                    |
| Overload                             | Beeps twice every second  |                    |                                 |                    |                                 |                    |                                 |                    |
| Fault                                | Continuously beeping  |                    |                                 |                    |                                 |                    |                                 |                    |
| <b>PHYSICAL</b>                      |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Dimension, D x W x H (mm)            | 410 x 438 x 88[2U]  |                    | 510 x 438 x 88[2U]              |                    | 510 x 438 x 88[2U]              |                    | 630 x 438 x 88[2U]              |                    |
| Net Weight (kgs)                     | 12.9  | 8.6                | 17.6                            | 10.7               | 20.6                            | 11.3               | 28                              | 13.8               |
| <b>ENVIRONMENT</b>                   |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Humidity                             | 20-90% RH @ 0- 40°C (non-condensing)  |                    |                                 |                    |                                 |                    |                                 |                    |
| Noise Level                          | Less than 50dBA @ 1 Meter   |                    |                                 |                    |                                 |                    |                                 |                    |
| <b>MANAGEMENT</b>                    |   |                    |                                 |                    |                                 |                    |                                 |                    |
| Smart RS-232 / USB                   | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10, Linux, Unix and MAC |                    |                                 |                    |                                 |                    |                                 |                    |
| Optional SNMP                        | Power management from SNMP manager and web browser                                  |                    |                                 |                    |                                 |                    |                                 |                    |

\* Derate capacity to 95% when the output voltage is adjusted to 115Vac, derate capacity to 90% when the output voltage is adjusted to 110Vac and derate capacity to 80% when the output voltage is adjusted to 100Vac

\* Product specifications are subject to change without further notice

### Features

- True double-conversion online UPS
- Output power factor 0.9
- User-friendly and easy-shift LCD display
- Rack/Tower design
- Programmable power management outlets
- 50/60Hz frequency converter mode
- ECO and advanced ECO mode for energy saving
- Emergency power off function (EPO)
- DSP technology applied for 6K and up models
- Active input power factor correction 0.99
- N+X paralld redundancy available



| MODEL                                |                           | Custos 9X <sup>+</sup> 6K   | Custos 9X <sup>+</sup> 10K   |
|--------------------------------------|---------------------------|---|--|
| PHASE                                |                           | Single phase with ground  |  |
| CAPACITY                             |                           | 6000VA / 5400 W   | 10000VA / 9000 W   |
| <b>INPUT</b>                         |                           |   |  |
| Nominal Voltage                      |                           | 200 / 208 / 220 / 230 / 240Vac  |  |
| Voltage Range                        |                           | 176-300Vac ± 3% @ 100% load 110-300Vac ± 3% @ 50% load  |  |
| Frequency Range                      |                           | 46~54Hz or 56~64Hz  |  |
| Power Factor                         |                           | ≥ 0.99 @ 100% load  |  |
| <b>OUTPUT</b>                        |                           |   |  |
| Nominal Voltage                      |                           | 200 / 208 / 220 / 230 / 240Vac  |  |
| AC Voltage Regulation                |                           | ± 1%  |  |
| Frequency Range (Synchronized Range) |                           | 46~54Hz or 56~64Hz  |  |
| Frequency Range (Batt. Mode)         |                           | 50Hz ± 0.1Hz or 60Hz ± 0.1Hz  |  |
| Current Crest Ratio                  |                           | 3:1 (max.)  |  |
| Harmonic Distortion                  |                           | ≤ 2% THD (Linear Load), ≤ 4% THD (Non-linear Load)  |  |
| Transfer Time                        |                           | AC mode to Battery mode<br>Inverter to Bypass   | Zero<br>Zero   |
| Waveform (Batt. Mode)                |                           | Pure Sinewave   |  |
| <b>EFFICIENCY</b>                    |                           |   |  |
| AC Mode                              |                           | 91%   | 91%  |
| ECO Mode                             |                           | 96%   | 96%  |
| Battery Mode                         |                           | 88%   | 88%  |
| <b>BATTERY</b>                       |                           |   |  |
| Battery Type                         |                           | 12V / 7Ah   | 12V / 9Ah  |
| Standard Model                       | Numbers                   | 20 (18-20pcs adjustable)*   | 20 (18-20pcs adjustable)*  |
|                                      | Typical Recharge Time     | 7 hours recover to 90% capacity   | 9 hours recover to 90% capacity                                      |
|                                      | Charging Current (max.)   | 1.0A  |  |
|                                      | Float Charging Voltage    | 273Vdc (based on battery numbers at 20pcs)  |  |
| Long-run Model                       | Battery Type and Numbers  | Depending on applications   |  |
|                                      | Charging Current (max.)   | 4.0A  |  |
|                                      | Float Charging Voltage    | 273Vdc (based on battery numbers at 20pcs)  |  |
| <b>INDICATORS</b>                    |                           |   |  |
| LCD Panel                            |                           | UPS status, Load level, Battery level, Input / Output voltage, Discharge timer and Fault conditions |  |
| <b>ALARM</b>                         |                           |   |  |
| Battery Mode                         |                           | Beeps every 4 seconds   |  |
| Low Battery                          |                           | Beeps every second  |  |
| Overload                             |                           | Beeps twice every second  |  |
| Fault                                |                           | Continuously beeping  |  |
| <b>PHYSICAL</b>                      |                           |   |  |
| Standard Model                       | Dimension, D x W x H (mm) | UPS unit: 606 x 438 x 133 [3U]<br>Battery pack: 606 x 438 x 133 [3U]                                | UPS unit: 686 x 438 x 133 [3U]<br>Battery pack: 606 x 438 x 133 [3U] |
|                                      | Net Weight (kgs)          | UPS unit: 20<br>Battery pack: 58  | UPS unit: 23.5<br>Battery pack: 65                                   |
| Long-run Model                       | Dimension, D x W x H (mm) | 606 x 438 x 133 [3U]  | 686 x 438 x 133 [3U]   |
|                                      | Net Weight (kgs)          | 20  | 23.5   |
| <b>ENVIRONMENT</b>                   |                           |   |  |
| Humidity                             |                           | 0-95% RH @ 0- 40°C (non-condensing)   |  |
| Noise Level                          |                           | Less than 58dBA @ 1 Meter   | Less than 60dBA @ 1 Meter  |
| <b>MANAGEMENT</b>                    |                           |   |  |
| Smart RS-232 / USB                   |                           | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10, Linux, Unix and MAC                 |  |
| Optional SNMP                        |                           | Power management from SNMP manager and web browser  |  |

\* When using internal batteries from 18-19, the unit will de-rate according to below formula: P=Prating x N/20

\* If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m

\* L means long-run model

\* Product specifications are subject to change without further notice

### True double-conversion online UPS

A true double conversion UPS will rectify input power to offer clean, pure, high level quality power with  $\pm 1\%$  voltage output regulation to fully protect mission-critical devices such as sensitive networks, small computer centers servers, telecom applications, as well as for industrial applications.

### Output power factor 0.9

Custos 9X+ series is a high-density UPS with output power factor 0.9 to provide higher performance and efficiency to critical applications.

### User-friendly and easy-shift LCD display

The front panel digital display can be easily shifted through LCD setting to suit the installation format, vertically stand or flat wall mount.



### Rack / Tower design

Custos 9X+ series is designed in true universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.



19" rack-mounting

Floor-standing Tower

### Programmable power management

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature will extend battery time to mission critical devices by shutting down the non-critical devices.



Programmable Outlets (P1) connect to non-critical devices

### 50 / 60 Hz frequency converter mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

### ECO and advanced ECO mode for energy saving

Thanks FSP Custos9X+ smart design, operation efficiency up to 97% ECO mode implemented. Furthermore, Custos 9X+ 1-3K even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98% for more energy saving. In these operation modes, load is supplied by the utility. When utility failure, UPS inverter will assume control the load and provide clean power continuity to the connected devices.



### Emergency Power Off function (EPO)

The safety function can guarantee & secure the emergency responders, fire fighters not exposed to dangerous voltage, electrical hazard from the device. This is important if equipment is emitting smoke, fire, or flood, or if person is being electrocuted.

### Hot-swappable battery design

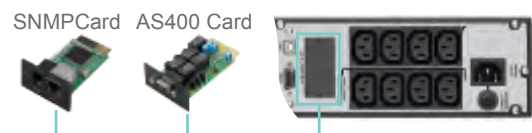
This design ensures clean and uninterruptible power to protected equipment during battery replacement.



### RJ-45 Surge protector

Custos 1-3kVA implements RJ-45 Surge Protection ports to prevent Ethernet network damage caused by lightning or ground surges.

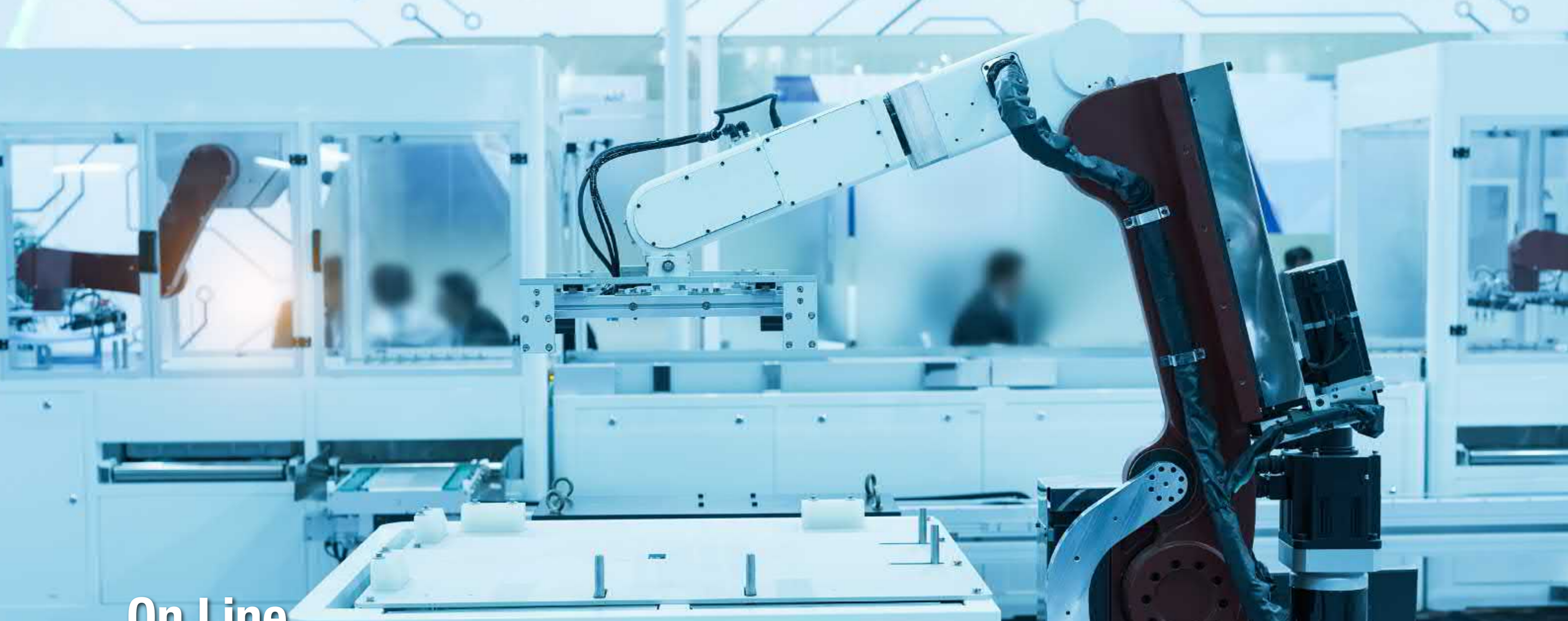
### Intelligent slot for SNMP or Relay Card



### Parallel Option N+X for 6K-10K models

Custos 9X+ 6K/10K can be parallel operated with up to 3 units to accommodate increases in power demand as well as to attain power redundancy with high system integrity.





## On Line Three-Phase series

### Heavy UPS Solution for Wide Industry Application

3 Phase Tower UPS Solutions : 3P/3P, 3P/1P Online UPS series integrates true double conversion design, DSP technology and active input power factor correction design to ensure output power quality and performance at all times. N+X redundancy function available reduce power failure or lost rick. Besides, easy-configurable program via LCD panel enhances the flexibility to meet ever-increasing power demand of IT and networked environment.



Network Device



Telecom Device



Medical



Industrial Machinery

#### General Features /

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.9
- Wide input voltage range (110-300Vac)
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving
- Emergency power off function (EPO)
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Accepts dual-mains inputs
- Generator compatible
- Battery number adjustable
- Maintenance bypass available
- Optional N+X parallel redundancy
- Optional isolation transformer offers full isolation and complete common mode noise rejection



### Features

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 1.0
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers for long-run model
- Maintenance bypass available
- Optional parallel operation
- Optional isolation transformer offers full isolation and complete common mode noise rejection



| MODEL                                | EPOS 3/1-10K(L)  | EPOS 3/1-15K(L)  | EPOS 3/1-20K(L)                  |  |
|--------------------------------------|--|--|----------------------------------|--|
| PHASE                                | 3 phase in / 1 phase out   |  |                                  |  |
| CAPACITY                             | 10kVA/10kW   | 15kVA / 15kW   | 20kVA / 20kW                     |  |
| <b>INPUT</b>                         |  |  |                                  |  |
| Nominal Voltage                      | 3X400Vac (3Ph+N)   |  |                                  |  |
| Voltage Range                        | 110-300VAC @ 50% load / 176-276VAC @ 100% load   |  |                                  |  |
| Frequency Range                      | 46~54Hz @50Hz System or 56~64Hz @ 60Hz System  |  |                                  |  |
| Power Factor                         | ≥ 0.99 @ 100% load   |  |                                  |  |
| <b>OUTPUT</b>                        |  |  |                                  |  |
| Output Voltage                       | 208*1220/230/240 VAC (Ph-N)  |  |                                  |  |
| AC Voltage Regulation (Batt. Mode)   | ± 1%   |  |                                  |  |
| Frequency Range (Synchronized Range) | 46~54Hz @50 Hz System or 56~64Hz @60 Hz System   |  |                                  |  |
| Frequency Range (Batt. Mode)         | 50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz   |  |                                  |  |
| Current Crest Ratio                  | 3:1 (max.)   |  |                                  |  |
| Harmonic Distortion                  | ≤ 2 % @100% Linear Load; ≤ 5 % @100% Non-linear Load   |  |                                  |  |
| Transfer Time                        | AC Mode to Battery Mode  | zero   |                                  |  |
|                                      | Inverter to Bypass   | zero (when phase lock fails, <4ms interruption occurs from inverter to bypass) |                                  |  |
| Waveform (Batt. Mode)                |  | Pure Sine Wave   |                                  |  |
| Overload                             | Line Mode  | 100-110% for 60 min, 110-125% for 10 min, 125%~150% 1min, >150% immediately    |                                  |  |
|                                      | Battery Mode   | 100-110% for 60 min, 110-125% for 10 min, 125%~150% 1min, >150% immediately    |                                  |  |
| <b>PARALLEL CAPACITY</b>             |  |  |                                  |  |
| up to 3 units in parallel            |  |  |                                  |  |
| <b>EFFICIENCY</b>                    |  |  |                                  |  |
| AC Mode                              | 95.5%  |  |                                  |  |
| ECO Mode                             | 98.5%  |  |                                  |  |
| Battery Mode                         | 94.5%  |  |                                  |  |
| <b>BATTERY</b>                       |  |  |                                  |  |
| Standard Model                       | Battery Type   | 12V / 7Ah  | 12V / 9Ah                        |  |
|                                      | Numbers in string  | (10+10) PCS  | (16+16) PCS                      |  |
|                                      | Typical Recharge Time  | 9 hours recover to 90% capacity  |                                  |  |
|                                      | Charging Current (max.)  | 2.0A ± 10% (Recommended) 1.0~12.0A (Adjustable)                                |                                  |  |
|                                      | Charging Voltage   | +/-136.5 VDC ± 1%  | +/-218 VDC ± 1%                  |  |
| Long-run Model                       | Battery Type   | Depending on the capacity of external batteries                                |                                  |  |
|                                      | Numbers in string  | 20PCS  | 32~40 pcs (Adjustable)           |  |
|                                      | Charging Current (max.)  | 1.0~12.0A ± 10% (Adjustable)   | 2.0~24.0A ± 10% (Adjustable)     |  |
|                                      | Charging Voltage   | +/-13.65 VDC* N ± 1% (N = 10)  | +/-13.65 VDC* N ± 1% (N = 16~20) |  |
| <b>INDICATORS</b>                    |  |  |                                  |  |
| LCD Panel                            | UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions |  |                                  |  |
| <b>PROTECTION</b>                    |  |  |                                  |  |
| Full Protection                      | Overload, Overtemperature, Utility abnormal, UPS fault, UPS warning, battery low, etc              |  |                                  |  |
| <b>ALARM</b>                         |  |  |                                  |  |
| Battery Mode                         | Sounding every 4 seconds   |  |                                  |  |
| Low Battery                          | Sounding every second  |  |                                  |  |
| Overload                             | Sounding twice every second  |  |                                  |  |
| Fault                                | Continuously sounding  |  |                                  |  |
| <b>PHYSICAL</b>                      |  |  |                                  |  |
| Standard Model                       | Dimension, D x W x H (mm)  | 626x 250 x 827   |                                  |  |
|                                      | Net Weight (kgs)   | 85   | 127.5                            |  |
| Long-run Model                       | Dimension, D x W x H (mm)  | 626 x 250 x 827  |                                  |  |
|                                      | Net Weight (kgs)   | 46.5   | 46.5                             |  |
| <b>ENVIRONMENT</b>                   |  |  |                                  |  |
| Operation Temperature                | 0-40°C (the battery life will down when > 25°C)  |  |                                  |  |
| Operation Humidity                   | < 95% and non-condensing   |  |                                  |  |
| Operation Altitude**                 | < 1000m**  |  |                                  |  |
| Noise Level                          | Less than 55dB @ 1 Meter   |  | Less than 58dB @ 1 Meter         |  |
| <b>STANDARDS</b>                     |  |  |                                  |  |
| Safety                               | EN 62040-1:2008/A1:2013; IEC 62040-1:2008/A1:2013; CE low voltage directive                        |  |                                  |  |
| EMC                                  | EN 62040-2: 2006(C3) CE EMC directive  |  |                                  |  |
| <b>MANAGEMENT</b>                    |  |  |                                  |  |
| Smart RS-232 / USB                   | Supports Windows® 2000/2003/XP/Vista/2008/7/8/10, Linux, Unix and MAC                              |  |                                  |  |
| Optional SNMP                        | Power management from SNMP manager and web browser   |  |                                  |  |

\*Derate capacity to 90% when the output voltage is adjusted to 208 VAC.

\*\*If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be de-rated 1% per 100 m.

Product specifications are subject to change without further notice

### Features

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 1 for 10K-80K
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers for long-run model
- Maintenance bypass available
- Parallel operation with common battery
- Optional parallel operation
- Optional isolation transformer offers full isolation and complete common mode noise rejection



| MODEL                                | EPOS 10K(L)*   | EPOS 15K(L)  | EPOS 20K(L)*             | EPOS 30K(L)*             | EPOS 40K(L)*             | EPOS 60K(L)*           | EPOS 80K(L)*     |  |
|--------------------------------------|--|--|--------------------------|--------------------------|--------------------------|------------------------|------------------|--|
| PHASE                                | 3-phase in / 3-phase out   |  |                          |                          |                          |                        |                  |  |
| CAPACITY                             | 10kVA/10kW   | 15kVA / 15kW   | 20kVA / 20kW             | 30kVA / 30kW             | 40kVA / 40kW             | 60kVA / 60kW           | 80kVA / 80kW     |  |
| <b>INPUT</b>                         |  |  |                          |                          |                          |                        |                  |  |
| Nominal Voltage                      | 3 x 400 VAC (3Ph+N)  |  |                          |                          |                          |                        |                  |  |
| Voltage Range                        | 190-520 Vac (3-phase) @ 50% load<br>305-478 Vac (3-phase) @ 100% load                              |  |                          |                          |                          |                        |                  |  |
| Frequency Range                      | 46~54 Hz or 56~64Hz  |  |                          |                          |                          |                        |                  |  |
| Power Factor                         | ≥ 0.99 @ 100% load   |  |                          |                          |                          |                        |                  |  |
| <b>OUTPUT</b>                        |  |  |                          |                          |                          |                        |                  |  |
| Output Voltage                       | 3 x 360*/380/400/415 Vac (3Ph+N)   |  |                          |                          |                          |                        |                  |  |
| AC Voltage Regulation (Batt. Mode)   | ± 1%   |  |                          |                          |                          |                        |                  |  |
| Frequency Range (Synchronized Range) | 46~54Hz or 56~64Hz   |  |                          |                          |                          |                        |                  |  |
| Frequency Range (Batt. Mode)         | 50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz   |  |                          |                          |                          |                        |                  |  |
| Current Crest Ratio                  | 3:1 (max.)   |  |                          |                          |                          |                        |                  |  |
| Harmonic Distortion                  | ≤ 2 % THD (Linear Load) / ≤ 5 % THD (Non-linear Load)  |  |                          |                          |                          |                        |                  |  |
| Transfer Time                        | AC Mode to Battery Mode  | zero   |                          |                          |                          |                        |                  |  |
|                                      | Inverter to Bypass   | zero   |                          |                          |                          |                        |                  |  |
| Waveform (Batt. Mode)                | Pure Sine Wave   |  |                          |                          |                          |                        |                  |  |
| Overload                             | Line Mode  | 100-110% for 60 min, 110-125% for 10 min, 125%~150% for 1 min; >150% immediately |                          |                          |                          |                        |                  |  |
|                                      | Battery Mode   | 100-110% for 60 min, 110-125% for 10 min, 125%~150% for 1 min; >150% immediately |                          |                          |                          |                        |                  |  |
| <b>PARALLEL CAPACITY</b>             |  |  |                          |                          |                          |                        |                  |  |
| up to 3 units in parallel            |  |  |                          |                          |                          |                        |                  |  |
| <b>EFFICIENCY</b>                    |  |  |                          |                          |                          |                        |                  |  |
| AC Mode                              | 95.5%  |  |                          |                          |                          |                        |                  |  |
| ECO Mode                             | 98.5%  |  |                          |                          |                          |                        |                  |  |
| Battery Mode                         | 94.5%  |  |                          |                          |                          |                        |                  |  |
| <b>BATTERY</b>                       |  |  |                          |                          |                          |                        |                  |  |
| Standard Model                       | Battery Type   | 12V/9Ah  | 12V/9Ah                  | 12V/9Ah                  | 12V/7Ah                  | 12V/9Ah                | N/A              |  |
|                                      | Numbers in string  | (10+10)pcs   | (16+16)pcs               | (16+16)pcs               | (16+16)pcs x 2 strings   | (16+16)pcs x 2 strings | N/A              |  |
|                                      | Typical Recharge Time  | 9 hours recover to 90% capacity  |                          |                          |                          |                        | N/A              |  |
|                                      | Charging Current (max.)  | 1A ~ 12A (Adjustable)  |                          |                          |                          |                        | N/A              |  |
|                                      | Charging Voltage   | +/-136.5 VDC ± 10%   |                          | +/-218 Vdc ± 10%         |                          |                        | N/A              |  |
| Long-run Model                       | Battery Type   | Depending on the capacity of external batteries                                  |                          |                          |                          |                        |                  |  |
|                                      | Numbers in string  | 20pcs  | 32~40 pcs (Adjustable)   |                          |                          | 790 x 360 x 1010       |                  |  |
|                                      | Charging Current (max.)  | 1A ~ 12A (Adjustable)  |                          |                          |                          | 2A ~ 24 A (Adjustable) |                  |  |
|                                      | Charging Voltage   | +/-136.5 VDC ± 10%   |                          | +/-13.65V*N (N=16~20)    |                          |                        |                  |  |
| <b>INDICATORS</b>                    |  |  |                          |                          |                          |                        |                  |  |
| LCD Panel                            | UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions |  |                          |                          |                          |                        |                  |  |
| <b>PHYSICAL</b>                      |  |  |                          |                          |                          |                        |                  |  |
| Standard Model                       | Dimension, D x W x H (mm)  | 630 x 250 x 826  |                          |                          | 815 x 300 x 1000         |                        | N/A              |  |
|                                      | Net Weight (kgs)   | 124  | 139                      |                          | 225                      | 250                    | N/A              |  |
| Long-run Model                       | Dimension, D x W x H (mm)  | 630 x 250 x 826  |                          |                          | 815 x 300 x 1000         |                        | 790 x 360 x 1010 |  |
|                                      | Net Weight (kgs)   | 28   | 43                       |                          | 60                       | 67                     | 108 113          |  |
| <b>ENVIRONMENT</b>                   |  |  |                          |                          |                          |                        |                  |  |
| Operation Temperature                | 0-40°C   |  |                          |                          |                          |                        |                  |  |
| Operation Humidity                   | <95% and non-condensing  |  |                          |                          |                          |                        |                  |  |
| Noise Level                          | Less than 55dB @ 1 Meter   | Less than 58dB @ 1 Meter   | Less than 65dB @ 1 Meter | Less than 58dB @ 1 Meter | Less than 55dB @ 1 Meter |                        |                  |  |
| <b>MANAGEMENT</b>                    |  |  |                          |                          |                          |                        |                  |  |
| Smart RS-232 / USB                   | Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux and MAC                             |  |                          |                          |                          |                        |                  |  |
| Optional SNMP                        | Power management from SNMP manager and web browser   |  |                          |                          |                          |                        |                  |  |

\* When output voltage is set as 3 x 360Vac, the output power of the unit will be de-rated to 90%.

\* Product specifications are subject to change without further notice

### Features

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 1 for 10K-80K
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- ECO mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers for long-run model
- Maintenance bypass available
- Parallel operation with common battery
- Optional parallel operation
- Optional isolation transformer offers full isolation and complete common mode noise rejection



| MODEL                                | EPOS 100KL   | EPOS 120KL   | EPOS 160KL               | EPOS 200KL        |     |
|--------------------------------------|--|--|--------------------------|-------------------|-----|
| PHASE                                | 3-phase in / 3-phase out   |  |                          |                   |     |
| CAPACITY                             | 100kVA / 90kW  | 120kVA / 108kW   | 160kVA / 144kW           | 200kVA / 180kW    |     |
| <b>INPUT</b>                         |  |  |                          |                   |     |
| Nominal Voltage                      | 3 x 400 VAC (3Ph+N)  |  |                          |                   |     |
| Voltage Range                        | 208-478 VAC (3-phase) @ 70% load<br>305-478 VAC (3-phase) @ 100% load  |  |                          |                   |     |
| Frequency Range                      | 40~70Hz  |  |                          |                   |     |
| Power Factor                         | ≥ 0.99 @ 100% load   |  |                          |                   |     |
| <b>OUTPUT</b>                        |  |  |                          |                   |     |
| Output Voltage                       | 3 x 380/400/415 VAC (3Ph+N)  |  |                          |                   |     |
| AC Voltage Regulation (Batt. Mode)   | ± 1%   |  |                          |                   |     |
| Frequency Range (Synchronized Range) | 46~54Hz or 56~64Hz   |  |                          |                   |     |
| Frequency Range (Batt. Mode)         | 50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz                                       |  |                          |                   |     |
| Current Crest Ratio                  | 3:1 (max.)   |  |                          |                   |     |
| Harmonic Distortion                  | zero   |  |                          |                   |     |
| Transfer Time                        | AC Mode to Battery Mode<br>Inverter to Bypass                          | zero<br>Pure Sine Wave   |                          |                   |     |
| Waveform (Batt. Mode)                | ≤ 2 % THD (Linear Load) / ≤ 4 % THD (Non-linear Load)                  |  |                          |                   |     |
| Overload                             | Line Mode<br>Battery Mode  | 105-110% for 1 hr, 111-125% for 10 min, 126-150% for 1 min, >150% for 200ms<br>105-110% for 1 hr, 111-125% for 10 min, 126-150% for 1 min, >150% for 200ms |                          |                   |     |
| <b>PARALLEL CAPACITY</b>             |  |  |                          |                   |     |
| up to 2 units in parallel            |  |  |                          |                   |     |
| <b>EFFICIENCY</b>                    |  |  |                          |                   |     |
| AC Mode                              | 94%  |  |                          |                   |     |
| ECO Mode                             | 98%  |  |                          |                   |     |
| Battery Mode                         | 93%  |  |                          |                   |     |
| <b>BATTERY</b>                       |  |  |                          |                   |     |
| Standard Model                       | Battery Type   | N/A  |                          |                   |     |
|                                      | Numbers in string  | N/A  |                          |                   |     |
|                                      | Typical Recharge Time  | N/A  |                          |                   |     |
|                                      | Charging Current (max.)  | N/A  |                          |                   |     |
|                                      | Charging Voltage   | N/A  |                          |                   |     |
| Long-run Model                       | Battery Type   | Depending on the capacity of external batteries  |                          |                   |     |
|                                      | Numbers in string  | 32~40 pcs (Adjustable)   |                          |                   |     |
|                                      | Charging Current (max.)  | 24A  | 32A                      | 40A               | 48A |
|                                      | Charging Voltage   | +/-13.7V*N (N = 16~20)   |                          |                   |     |
| <b>INDICATORS</b>                    |  |  |                          |                   |     |
| LCD Panel                            | 10" Touch Type color LCD   |  |                          |                   |     |
| <b>PHYSICAL</b>                      |  |  |                          |                   |     |
| Standard Model                       | Dimension, D x W x H (mm)  | N/A  |                          |                   |     |
|                                      | Net Weight (kgs)   | N/A  |                          |                   |     |
| Long-run Model                       | Dimension, D x W x H (mm)  | 940 x 567 x 1015   |                          | 1040 x 567 x 1452 |     |
|                                      | Net Weight (kgs)   | 199  | 234                      | 306               | 340 |
| <b>ENVIRONMENT</b>                   |  |  |                          |                   |     |
| Operation Temperature                | 0-40°C   |  |                          |                   |     |
| Operation Humidity                   | <95% and non-condensing  |  |                          |                   |     |
| Noise Level                          | Less than 70dB @ 1 Meter   |  | Less than 73dB @ 1 Meter |                   |     |
| <b>MANAGEMENT</b>                    |  |  |                          |                   |     |
| Smart RS-232 / USB                   | Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux and MAC |  |                          |                   |     |
| Optional SNMP                        | Power management from SNMP manager and web browser                     |  |                          |                   |     |

\* When output voltage is set as 3 x 360Vac, the output power of the unit will be de-rated to 90%.

\* Product specifications are subject to change without further notice

### Features

- High efficiency online double conversion technology
- High scalability
- Unity output power factor
- Modular design lowers MTTR
- N+1 or N+R Parallel Redundancy for power guarantee
- Ease of installation and maintenance
- Flexible battery configuration adapts different applications
- Highly reliable operation with redundant power supply in STS
- User-adjustable charging current
- High overload capability
- Graphic 5.7" LCD design for easy management
- Optional 10" touch LCD panel



| MODEL                                | Mplus 30K   | Mplus 60K | Mplus 90K | Mplus 120K | Mplus 150K | Mplus 180K | Mplus 210K | Mplus 300K |
|--------------------------------------|---|-----------|-----------|------------|------------|------------|------------|------------|
| PHASE                                | 3-phase in/3-phase out  |           |           |            |            |            |            |            |
| TOTAL CAPACITY*                      | 30kW  | 60kW      | 90kW      | 120kW      | 150kW      | 180kW      | 210kW      | 300kW      |
| UPS POWER MODULES                    | 1   | 2         | 3         | 4          | 5          | 6          | 7          | 10         |
| TOPOLOGY                             | True Double-Conversion Online   |           |           |            |            |            |            |            |
| <b>INPUT</b>                         |   |           |           |            |            |            |            |            |
| Nominal Voltage                      | 3 x 380Vac / 400Vac / 415Vac (3Ph+N)  |           |           |            |            |            |            |            |
| Voltage Range                        | 305~478Vac at 100% load; 208~304Vac at <70% load                                    |           |           |            |            |            |            |            |
| Nominal Frequency                    | 50 / 60Hz (Auto sensing)  |           |           |            |            |            |            |            |
| Frequency Range                      | 40~70Hz   |           |           |            |            |            |            |            |
| Power Factor                         | > 0.99 at 100% load, >0.98 at 50% load  |           |           |            |            |            |            |            |
| Harmonic Distortion (THDi)           | < 3% @ 100% load  |           |           |            |            |            |            |            |
| <b>OUTPUT</b>                        |   |           |           |            |            |            |            |            |
| Nominal Voltage                      | 3 x 380Vac / 400Vac / 415Vac (3Ph+N)  |           |           |            |            |            |            |            |
| Voltage Regulation (Steady state)    | ± 1% Typical (balanced load), ± 2% Typical (unbalanced load)                        |           |           |            |            |            |            |            |
| Voltage Regulation (Transient)       | ≤ ± 5% Typical  |           |           |            |            |            |            |            |
| Nominal Frequency                    | 50 / 60Hz   |           |           |            |            |            |            |            |
| Frequency Range (Synchronized range) | 46~54Hz or 56~64Hz  |           |           |            |            |            |            |            |
| Overload Capability                  | 1 hour for 110%, 10 mins for 125%, 1 min for 150% and 200ms for >150%               |           |           |            |            |            |            |            |
| Harmonic Distortion                  | ≤ 2% THD (Linear Load) ≤ 4% THD (Non-linear Load)                                   |           |           |            |            |            |            |            |
| Efficiency                           | Up to 94.5%   |           |           |            |            |            |            |            |
| <b>BATTERY / CHARGER</b>             |   |           |           |            |            |            |            |            |
| Nominal Voltage                      | +/- 216V (12V x 36Pcs)  |           |           |            |            |            |            |            |
| Maximum Voltage                      | +/- 240V (12V x 40Pcs)  |           |           |            |            |            |            |            |
| Minimum Voltage                      | +/- 192V (12V x 32Pcs)  |           |           |            |            |            |            |            |
| Floating Charge Voltage              | 2.25V / Cell  |           |           |            |            |            |            |            |
| Boost Charging Voltage               | 2.35V / Cell  |           |           |            |            |            |            |            |
| Temperature Compensation             | Yes   |           |           |            |            |            |            |            |
| Maximum Charging Current             | 8A (User-djustable)   |           |           |            |            |            |            |            |
| <b>PHYSICAL</b>                      |   |           |           |            |            |            |            |            |
| Medium Size (D x W x H)              | 600 x 1100 x 1485 (30U) mm  |           |           |            |            |            |            |            |
| Full Size                            | 600 x 1100 x 2030 (42U) mm  |           |           |            |            |            |            |            |
| <b>ENVIRONMENT</b>                   |   |           |           |            |            |            |            |            |
| Operation Temperature                | 0 ~ 40°C  |           |           |            |            |            |            |            |
| Relative Humidity                    | 0 ~ 95% non-condensing  |           |           |            |            |            |            |            |
| Altitude                             | <1000m for Nominal power  |           |           |            |            |            |            |            |
| IP Class                             | IP 20   |           |           |            |            |            |            |            |
| <b>MANAGEMENT</b>                    |   |           |           |            |            |            |            |            |
| Smart RS-232 / USB                   | Supports Windows® 2000 / 2003 / XP / Vista / 2008 / 7 / 8 / 10, Linux, Unix and MAC |           |           |            |            |            |            |            |
| Optional SNMP                        | Power management from SNMP manager and web browser                                  |           |           |            |            |            |            |            |
| <b>STANDARDS</b>                     |   |           |           |            |            |            |            |            |
| Safety                               | IEC / EN 60950-1; IEC / EN 62040-1  |           |           |            |            |            |            |            |
| EMC                                  | IEC / EN 62040-2 Category C3  |           |           |            |            |            |            |            |

\* When temperature is above 30°C, the output power factor will be de-rated, 0.9 at 31°C~35°C and 0.8 at 36°C~40°C.

\* One battery module contains 10pcs of 12V / 7Ah or 12 / 9Ah sealed lead acid batteries in one tray. One complete battery set contains 4 battery modules.

\* If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

\* Product specifications are subject to change without further notice.

### High efficiency online double conversion technology

Mplus is applied online double conversion technology with high performance over 94.5% at 50% load. It significantly reduces overall Total Cost of Ownership (TCO).

### High scalability

DSP control provides an improved solution with high performance. Integrated with modular design and parallel technology, Mplus simplifies future power expansion.

### Unity output power factor

Mplus delivers unity output power (kVA=kW) providing the maximum power capacity to mission critical loads. It satisfies the requirements of the latest servers and optimizes IT investment with every penny.

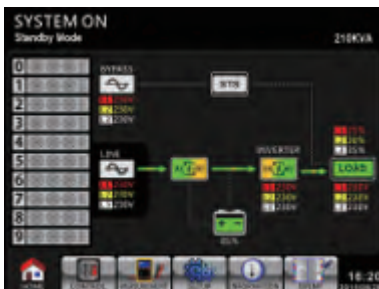
### Modular design lowers MTTR

Modular design is applied in power module, STS module and battery module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair).

### N+1 or N+X parallel redundancy for power guarantee

Scalable architecture allows you to optimize cost expense to meet power demands by vertically expanding in a single rack enclosure from 30kVA to 210kVA and achieve N+1 or N+X redundancy in the same rack.

### Optional 10" touch LCD panel



### Ease of installation and maintenance

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are front accessibility.

### Flexible battery configuration adapts different applications

Battery numbers can be adjusted flexibly. It will adapt different power demands and shorten system downtime. Battery voltage can be set from 32 to 40 pieces per string.

### Graphic 5.7" LCD design for easy management

Designed for easy management, Mplus is equipped with 5.7" graphic LCD screen. Intuitive design enhances display information identified and advanced configuration.

### High reliable operation with redundant power supply in STS

Mplus provides 2 power supplies in STS. It will ensure no shutdown risk for STS.

### User-adjustable charging current

Mplus provides maximum 8A or 6A charging current for every power module and it's user-adjustable based on requirement.

### High overload capability

Mplus provides 2 power supplies in STS. It will ensure no shutdown risk for STS.

Standard Series



Mplus 30U-90



Mplus 42U-120

Extended Series



Mplus 30U-120



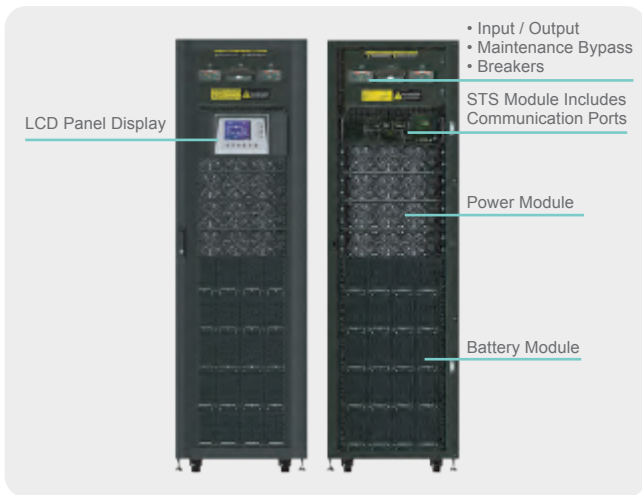
Mplus 30U-180



Mplus 42U-200

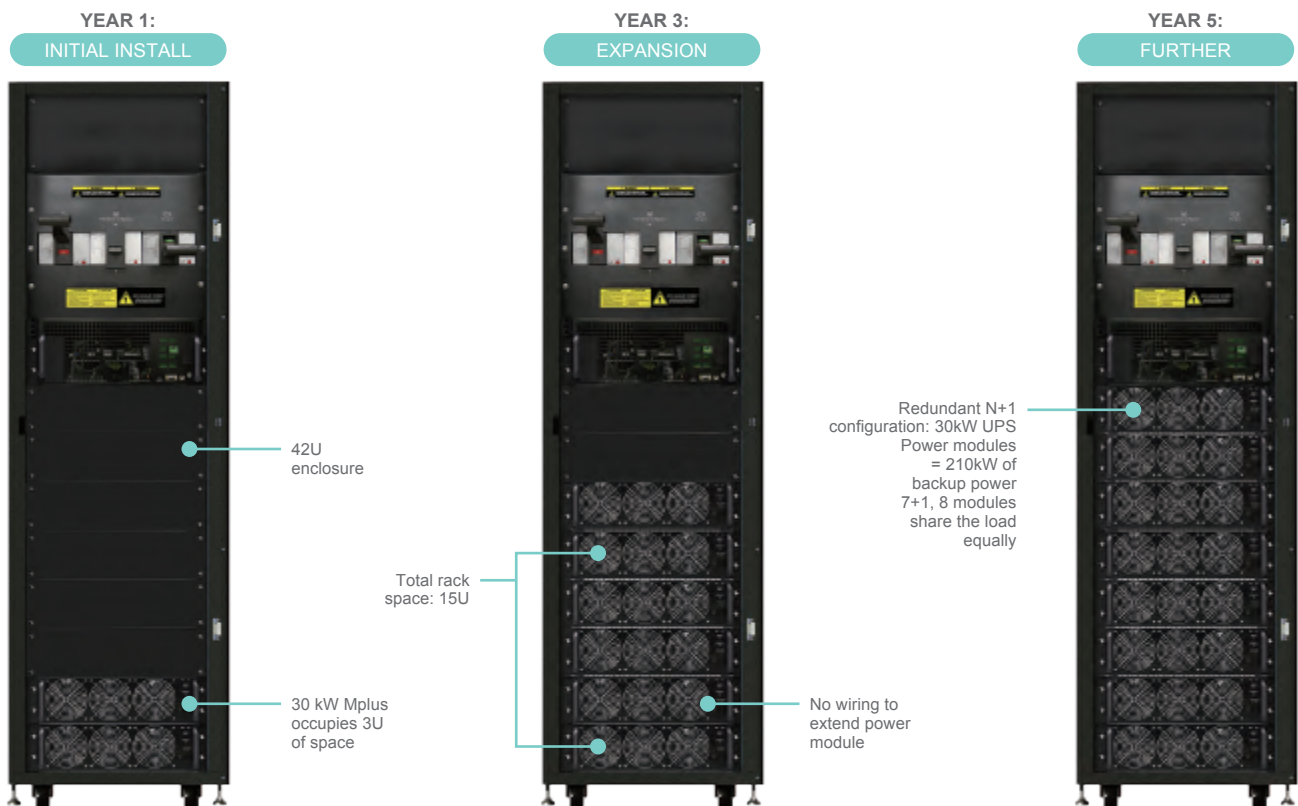


Mplus 42U-210



**Expandability. Flexibility. Uninterruptibility. Via Modular architecture**

Thanks MPLUS Modular design architecture, scalable and compact size 3U rackmount power module that supplies 30kW of backup power protection. Whole system can be easily expanded as your data center growth. Plug and play N+X,N+1 redundancy design optimizes customer's power demand and enhance the capital investment plan and deployment. MPLUS smart intelligent load sharing system proportionates workload into each power module without linking any extra communication, paralleled, current share cables. Besides, system is no need to shutdown or interrupt, MPLUS can provide backup support during power module maintenance.



MPLUS Offers 20kVA and 30kVA power module, no matter which model, e.g. in 30U extend model, power module can be installed up to 6PC, 120kVA with 20kVA or 180kVA with 30kVA 6PC power modules. In addition, same cabinet reduces wiring, or human error operation issue and ensures backup power increased to cover new power demand in a right way.

MPLUS also offers 15U cabinet as economy purpose, full range power rating is not only suitable for large IT room, Datacenter, but also adequate to infrastructures and different purposes.

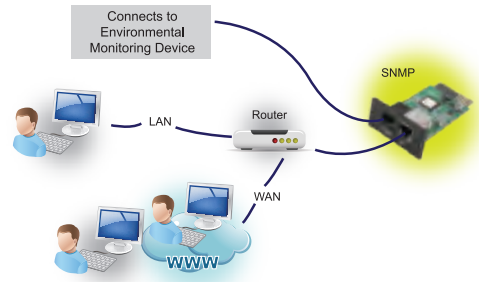
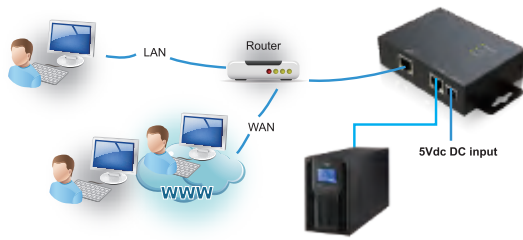
MPLUS 30U/42U extremely flexible characteristic, One power module with 30kW unity power factor can be single or multi module operation. In 42U cabinet model can up to 7+1 modules 210kW, elastic design offers proper backup power protection with appropriate capital investment whenever needed.



15U 90kW

## UPS Remote Monitoring and Connectivity

FSP provides complete connectivity solutions with comprehensive products and software package. These connectivity products ensure communication compatibility with a variety external devices through relay, SNMP and Modbus.



## Connectivity Product



SNMP Card



SNMP Web Card



SNMP Web Card (DP801B)



SNMP Web Box



Modbus Card



Modbus Web Box



DB9 Port



9-pin Port



EMD

### SNMP Web Card/Box

- Allows control and monitoring of multiple inverters through RJ-45 network connection
- Real-time dynamic graphs of UPS / PowerManager data
- Warning notifications via audible alarm, broadcast, mobile messenger, e-mail and SNMP traps
- Historic data log stored in centralized PC database
- Simple firmware upgrade with one click
- Password security protection and remote access management
- Supports optional environmental monitoring detector for temperature, humidity and smoke

### Modbus Card

- Real-time control and monitoring of multiple inverters via RS-485 communication port
- Supports Modbus RTU protocol
- Provides MODBUS functions including read Holding Registers and write Registers
- Provides surge protection

### Modbus Web Box

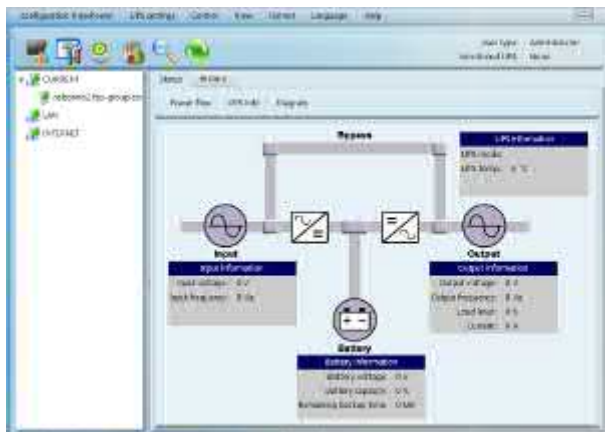
- Supports to monitor off-grid inverter through modbus interface
- Implements MODBUS RTU protocol
- Integrated with WatchPower software
- Supports PowerManager Hybrid series

### Relay Card

The AS400 communication card provides contact closures for remote monitoring UPS. To meet different application requirement, the AS400 card is capable of selection the status of the dry-contact signal (active close or active open) by setting jumper.

### Environmental Monitoring Device (EMD)

- Plug & use for simple installation with SNMP manager
- Monitor temperature and humidity to protect your precious equipment
- Allow 4 contact closure signals for user-defined usage
- Management software to remote monitor temperature and humidity status via web browser
- Measure temperatures between 0 to 100°C with an accuracy of  $\pm 1.5^{\circ}\text{C}$
- Measure relative humidity between 10 to 90% RH with an accuracy of  $\pm 3\%$
- Optional smoke alarm available



### ViewPower - UPS Management Software

ViewPower Pro is UPS management software which is perfect for home users and enterprises. It can monitor and manage from one to multiple UPSs in a networked environment including LAN, INTERNET and Modbus networks. Integrated with Shutdown Wizard, it can not only prevent data loss from power outage and safely shutdown systems, but also store programming data and scheduled shut down UPSs. All UPS working data and event records can be kept in local database system.

# Accessory



IEC Cable 16A C19/C20  
(180cm)



IEC Cable 16A C14/C19  
(150cm)



IEC Cable 16A C20/C13  
(180cm)



## Rackmount Slider

Simple installation for mounting Rack in your server rack enclosure. RMS-001 for 1-3kVA Rack UPS  
RMS-002 for 6-10kVA Rack UPS



### BATTERY PACK

| Form Factor          | Tower           |           | Tower           |           | Tower           |           | Tower           |           | Tower           |           | Tower           |           |
|----------------------|-----------------|-----------|-----------------|-----------|-----------------|-----------|-----------------|-----------|-----------------|-----------|-----------------|-----------|
| Capacity             | 1K              |           | 1K / 1.5K       |           | 2K / 3K         |           | 6K / 10K        |           | 6K / 10K        |           | 6K / 10K        |           |
| Battery Type         | 12V / 7Ah       | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah |
| Battery Number       | 4 pcs           | 4 pcs     | 6pcs            | 6 pcs     | 12 pcs          | 12 pcs    | 40 pcs          | 40 pcs    | 60 pcs          | 60 pcs    | 80 pcs          | 80 pcs    |
| Battery Voltage      | 24Vdc / 48Vdc   |           | 36Vdc / 72Vdc   |           | 72Vdc           |           | 240Vdc          |           | 240Vdc          |           | 240Vdc          |           |
| Dimension(D x W x H) | 397 x 145 x 220 |           | 397 x 145 x 220 |           | 421 x 190 x 318 |           | 592 x 250 x 576 |           | 830 x 250 x 576 |           | 815 x 250 x 826 |           |
| Net Weight (kgs)     | 12              | 13.3      | 18              | 20        | 36              | 40        | 109             | 125       | 166             | 190       | 210             | 242       |



### BATTERY PACK

| Form Factor          | 2U Rack        |           | 2U Rack        |           | 2U Rack        |           | 2U Rack        |           | 3U Rack         |           |
|----------------------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|-----------------|-----------|
| Capacity             | 1K             |           | 1K / 1.5K      |           | 2K             |           | 2K / 3K        |           | 6K / 10K        |           |
| Battery Type         | 12V / 7Ah      | 12V / 9Ah | 12V / 7Ah      | 12V / 9Ah | 12V / 7Ah      | 12V / 9Ah | 12V / 7Ah      | 12V / 9Ah | 12V / 7Ah       | 12V / 9Ah |
| Battery Number       | 4 pcs          | 4 pcs     | 6pcs           | 6 pcs     | 8 pcs          | 8 pcs     | 12 pcs         | 12 pcs    | 20 pcs          | 20 pcs    |
| Battery Voltage      | 24Vdc / 48Vdc  |           | 36Vdc / 72Vdc  |           | 48Vdc          |           | 72Vdc          |           | 240Vdc          |           |
| Dimension(D x W x H) | 380 x 438 x 88 |           | 380 x 438 x 88 |           | 480 x 438 x 88 |           | 600 x 438 x 88 |           | 580 x 438 x 131 |           |
| Net Weight (kgs)     | 15.5           | 16.9      | 19.2           | 21.3      | 25.9           | 28.7      | 36.6           | 40.8      | 57              | 65        |

### MODEL NO.

|                   | C1              | C2              | C3              | C4              | C6              | C8              | C12             |
|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Cabinet Dimension | 435 x 210 x 270 | 450 x 470 x 320 | 585 x 470 x 320 | 450 x 470 x 615 | 585 x 470 x 615 | 780 x 470 x 615 | 780 x 470 x 900 |

### BATTERY Q'TY FIT FOR CABINET

|        |       |     |     |      |      |      |      |
|--------|-------|-----|-----|------|------|------|------|
| 100Ah  | 1     | 1   | 3   | 4    | 6    | 8    | 12   |
| 65Ah   | 1     | 2   | 3   | 4    | 6    | 8    | 12   |
| 38Ah   | 2     | 4   | 6   | 8    | 12   | 16   | 24   |
| 24Ah   | 3     | 4   | 6   | 8    | 12   | 16   | 24   |
| 17Ah   | 5     | 10  | 14  | 20   | 28   | 36   | /    |
| Weight | 3.5kg | 6kg | 8kg | 18kg | 22kg | 25kg | 32kg |

### MODEL NO.

|                   | C16              | C20              | C24               | C32              | C16              | C32              |
|-------------------|------------------|------------------|-------------------|------------------|------------------|------------------|
| Cabinet Dimension | 780 x 470 x 1190 | 950 x 470 x 1190 | 1150 x 470 x 1190 | 780 x 880 x 1190 | 780 x 470 x 1190 | 780 x 880 x 1190 |

### BATTERY Q'TY FIT FOR CABINET

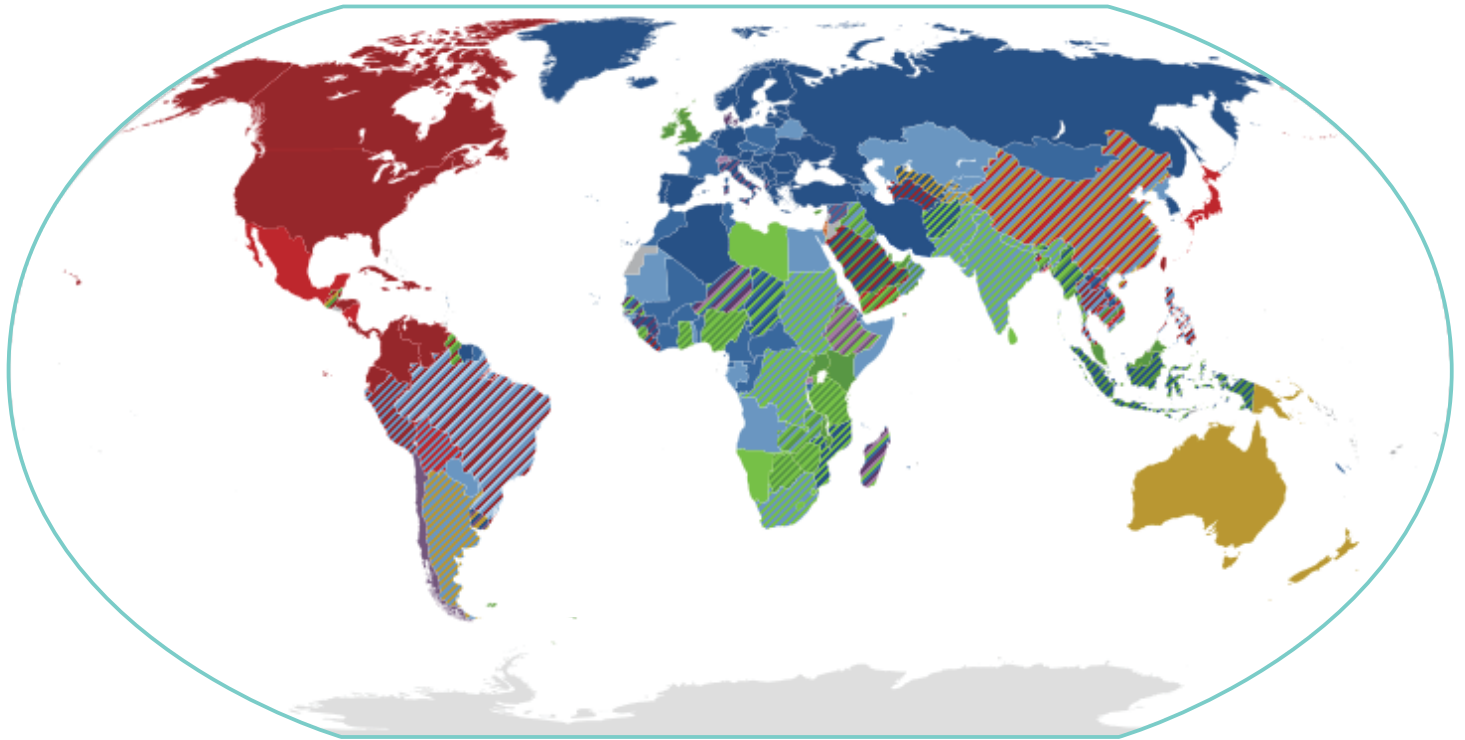
|        |      |      |      |      |      |      |
|--------|------|------|------|------|------|------|
| 100Ah  | 16   | 20   | 24   | 32   | /    | /    |
| 65Ah   | 16   | 20   | 24   | 32   | /    | /    |
| 38Ah   | 32   | 40   | /    | /    | /    | 62   |
| 24Ah   | 32   | 40   | /    | /    | /    | 62   |
| 17Ah   | /    | /    | /    | /    | 62   | /    |
| Weight | 45kg | 45kg | 75kg | 95kg | 45kg | 95kg |

※ C series battery cabinet include wire but without circuit breaker

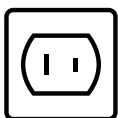


# Mains electricity by country and plugs / sockets list

The International Electrotechnical Commission publishes a web microsite World Plugs[1] which provides the main source for this page, except where other sources are indicated. World Plugs includes some history, a description of plug types, and a list of countries giving the type(s) used and the mains voltage and frequency.



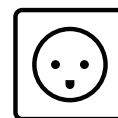
The system of plug types using a single letter (from A to N) used here is from World Plugs, which defines the plug type letters in terms of a general description, without making reference to specific standards. Where a plug does not have a specific letter code assigned to it, then it may be defined by the style sheet number listed in IEC TR 60083.



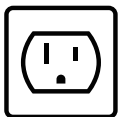
**Type A**  
(NEMA 1–15 U.S. 2 pin)  
max 125 V AC, max rating 15A



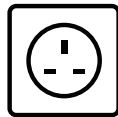
**Type F**  
(Schuko)  
CEE 7/4 plug & CEE 7/3 socket,  
16A



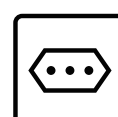
**Type K**  
(SRAF 1962/DB Denmark)



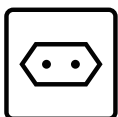
**Type B**  
(NEMA 5-15 U.S. 3 pin)  
max 125 V AC, max rating 15 A  
and IEC standard 60906-2



**Type G**  
(BS 1363 UK)



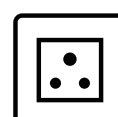
**Type L**  
(CEI 23-50)



**Type C**  
(CEE 7/16 Europlug)



**Type H**  
(SI 32 Israel)



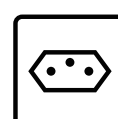
**Type M**  
(15 A BS 546)



**Type D**  
(BS 546 5 A)



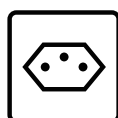
**Type I**  
(Australian AS/NZS 3112)  
Argentinian version has reversed  
polarity compared to Chinese and  
Australian versions



**Type N**  
(Brazilian NBR 14136)



**Type E**  
(French)  
CEE 7/6 plug & CEE 7/5 socket,  
16A



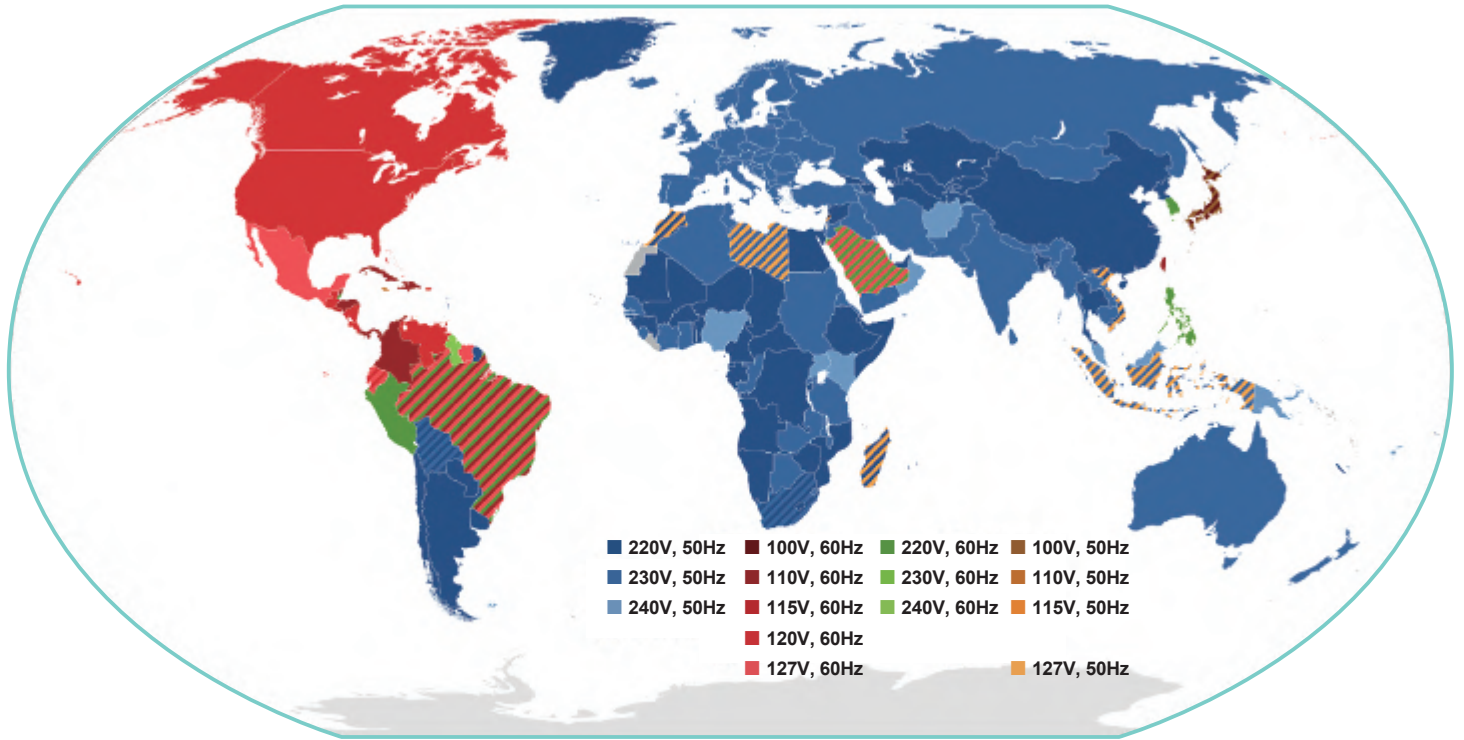
**Type J**  
(SEV-1011 Switzerland)  
10A



**Universal Socket**  
which meets no standard[5] but  
accepts a number of different plug  
types.(criticized as unsafe)

Mains electricity by country includes a list of countries and territories, with the plugs, voltages and frequencies they commonly use for providing electrical power to appliances, equipment, and lighting typically found in homes and offices. (For industrial machinery, see Industrial and multiphase power plugs and sockets.) Some countries have more than one voltage available. For example, in North America most sockets are attached to a 120 V supply, but there is a 240 V supply available for large appliances. Often different sockets are mandated for different voltage or current levels.

Voltage, frequency, and plug type vary, but large regions may use common standards. Physical compatibility of receptacles may not ensure compatibility of voltage, frequency, or connection to earth (ground), including plugs and cords.



IEC 60320 Appliance couplers for household and similar general purposes[1] is a set of standards from the International Electrotechnical Commission (IEC) specifying non-locking appliance and interconnection couplers for connecting power supply cords to electrical appliances of voltage not exceeding 250 V (a.c.) and rated current not exceeding 16 A.[2] Different types of connector (distinguished by shape and size) are specified for different combinations of current, temperature and earthing requirements. Unlike IEC 60309 connectors, they are not coded for voltage; users must ensure that the voltage rating of the equipment is compatible with the mains supply.

The first edition of IEC 320 (later renumbered IEC 60320) was published in 1970



**C13/C14 Coupler**

Most desktop computers use the C14 inlet to attach the power cord to the power supply, as do many instrument amplifiers, monitors, printers and other peripherals. A power cord with a suitable power plug (for the locality where the appliance is being used) on one end and a C13 connector (connecting to the appliance) on the other is commonly called an IEC cord. IEC cords are used to power many pieces of electronic equipment, including computers, instrument amplifiers, professional audio equipment and virtually all professional video equipment.



**C19/C20 Coupler**

Earthed, 16 A, polarized. This coupler is used for some IT applications where higher currents are required, as for instance, on high-power workstations and servers, uninterruptible power supplies, power distribution units, large network routers, switches, blade enclosures, and similar equipment. This connector can also be found on high current medical equipment. It is rectangular and has pins parallel to the long axis of the coupler face.



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