## **ONLINE 3:3 UPS**

# HYUNDAI

**HYUNDAI UPS** 80KVA – 200KVA (3:3)**PF 1.0** 



### **Features**

- Advanced dual-core DSP control technology and 3-level technology
- Output power factor 1.0
- Active power factor correction (APFC), input power factor up to 0.99 •
- System efficiency is improved to 96%, energy saving rate is doubled •
- Working efficiency up to 99% in ECO mode •
- Dual input design, supporting independent bypass •
- Advanced digital and parallel technology, providing higher reliability than single system •
- Wide input voltage range, 50 / 60 Hz auto-sensing frequency •
- 50 / 60 Hz frequency conversion mode •
- Compact internal layout, small footprint .
- Fan speed varies intelligently with temperature, reducing noise and extending its service life •
- Features strong fault tolerance, one fan damaged takes 50% of the load, two fans damaged take 30% of the load •
- Conformal coating technology to make UPS operate in harsh environment for a long time .
- Effective hardware and software protection, robust self-diagnosis function, abundant event log for future check •
- Linear downgrading in low voltage input, reducing battery discharging times
- Flexible battery configuration setting, selectable battery numbers: 30~ 44 pcs •
- Digitally controlled charger (Max.48 A) •
- Ability to switch on the UPS by battery in the absence of mains power (Cold start)
- Zero switching time for UPS power supply mode when the mains power is unstable, ensuring the output is • uninterrupted
- 5 inches LCD colorful touch screen, friendly human & machine interface (7" LCD for 160KVA and 200KVA) •
- Powerful background software for parameters configuration and online upgrade
- Advanced multi-platform communication for UPS monitoring: RS232, USB, RS485, dry contacts. SNMP card, EMP • card, Wi-Fi card (Optional)
- Intelligent battery management, automatic equalized and float charging control, charger dormancy control, improving the reliability of charger and extending the battery life
- Options and accessories: RS232, USB, RS485, Parallel port, Dry contacts, EPO interfaces supplied; Optional SNMP card, parallel kit, EMP card, Wi-Fi card

2024@version



### HYUNDAI UPS - LICENSED BY HYUNDAI CORPORATION, KOREA

## **ONLINE 3:3 UPS**



# HYUNDAI

#### Specifications

INPUT     Three-phase five-wire (3p + N + PE)       Rated voltage     380/400/415Vac       Voltage range     304 – 485Vac (no downgrading), 138V – 304Vac (linear downgrading between 40%-100% load)       Rated frequency     50/60Hz (auto-sensing)       Frequency range     40 – 70Hz       Power factor     ≥ 0.99       Bypass voltage range     -60% + +20%       THDI     ≤ 33%       OUTPUT     Ouput wiring       Outree regulation     ± 1%       Frequency     Synchronized with utility in mains mode, 50/60 Hz ± 0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDV     ≤ 1% (linear load))       Crest factor     3.1       Overload     105% - 110% for 60min; 110%-125% for 10min; 125% -150% for 0.2s       BATTERIES     Depend on the capacity of battery       OZ voltage time     Depend on the capacity of battery       Stord configuration:     36A     48A       Recharge time     Depend on the capacity of battery       Stord configuration:     Stord-485% in online mode, 93% in ECO mode       Transfer imae     0 ms       P	MODEL	HD-80KH3	HD-100KH3	HD-120KH3	HD-160KH3	HD-200KH3
Input wiring     Three-phase five-wire (3q + N + PE)       Rated voltage     3004-00/415Vac       Voltage range     304 – 485Vac (no downgrading), 138V – 304Vac (linear downgrading between 40% - 100% load)       Rated frequency     5060Hz (auto-sensing)       Frequency range     40 – 70Hz       Power factor     ≥ 0.99       Bypass voltage range     -60% + 20%       THDi     ≤ 3%       OUTPUT     ≤ 3%       Output wiring     Three-phase five-wire (3q + N + PE)       Rated voltage regulation     ± 1%       Frequency     Synchronized with utility in mains mode. 5006 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDi     ≤ 1% (linear load); 4 % (non-linear load)       Crest factor     1.0       THDi     ≤ 1% (linear load); 4 % (non-linear load)       Crest factor     3.1       Overlaad     105% + 110% for 60min; 125% - 150% for 1min; >150% for 0.2s       BATTERIS     38A     48A       BATTERIS     2 pos 122 V RLA batteries (30-44 pos settable).       Number of battery     32 pos 122 V WRLA batteries (30-44 pos settable)	Capacity	80KVA/80KW	100KVA/100KW	120KVA/120KW	160KVA/160KW	200KVA/200KW
Rated voltage     380/400/415Vac       Voltage range     304 – 485Vac (no downgrading), 138V – 304Vac (linear downgrading between 40%-100% load)       Rated frequency     50/60Hz (auto-sensing)       Frequency range     40 – 70Hz       Power factor     ≥ 0.99       Bypass voltage range     -60%20%       THDI     ≤ 3%       OUTPUT     ≤ 3%       Output wing     Three-phase five-wire (3p + N + PE)       Rated voltage     -380/400/415Vac       Voltage regulation     ± 1%       Frequency     Synchronized with utility in mains mode. 50/60 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDv     ≤ 1% (non-linear load)       Crest factor     3:1       Output wing     105% - 110% for 60min; 110%-125% for 10min; >150% for 0.2s       BATTERIES     Outotage       Do voltage     ±192Vdc default (±180 - ±264 Vdc Settable).       Number of battery     32 pos 12V VRLA batteries (30-44 pcs settable)       Charging current (max.)     24A     36A       Recharge time     Om s       Protections     Short-ci	INPUT					
Voltage range     304 – 485Vac (ino downgrading), 138V – 304Vac (linear downgrading between 40%-100% load)       Rated frequency     50/60Hz (auto-sensing)       Frequency range     40 – 70Hz       Power factor     ≥ 0.99       Sypass voltage range     -60% - +20%       UTPUT     ≤ 3%       OUTPUT     ≤ 3%       OUTPUT     ≤ 3%       Voltage regulation     ± 1%       Rated voltage     380/400/415Vac       Voltage regulation     ± 1%       Frequency     Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDv     ≤ 1% (linear load); ≤ 4% (non-linear load)       Crest factor     3.1       Oxerload     105% - 110% for 60min; 110% - 125% for 10min; 125% - 150% for 10min; >150% for 0.2s       BATTERIES     2       DC voltage     ±192/Vdc default (±180 - ±264 Vdc Settable).       Number of battery     32 pos 12V VRLA batteries (30-44 pos settable)       Charing current (max.)     24A     36A     48A       Recharge time     Depend on the capacity of battery     Standard co	Input wiring	Three-phase five-wire (3φ + N + PE)				
Rated frequency   50/60Hz (auto-sensing)     Frequency range   40 – 70Hz     Power factor   ≥ 0.99     Bypass voltage range   -60% + +20%     THDI   ≤ 3%     OUTPUT      Output wiring   Three-phase five-wire (3\(\phi\) + N + PE)     Rated voltage   380/400/415/stac     Voltage regulation   \$ 1\%     Frequency   Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode     Power factor   1.0     THDV   ≤ 1\% (linear load); \$ 4\% (non-linear load)     Creat factor   3.1     Overload   100% - 110% for 60min; 110% - 125% for 10min; 125% - 150% for 1min; >150% for 0.2s     BATTERIES   DC voltage     LAraging current (max.)   24A     SSETEM   38A   48A     Recharge time   Depend on the capacity of battery     SYSTEM   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. 96% in online mode, 99% in ECO mode   Tanafet fime     Communications   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, fan failure     Max. 96% in online mode, 99% in ECO mode   Tanafet fime <td>Rated voltage</td> <td colspan="5">380/400/415Vac</td>	Rated voltage	380/400/415Vac				
Frequency range     40 - 70Hz       Power factor     ≥ 0.99       Bypass voltage range     -60% - +20%       THDI     ≤ 3%       OUTPUT     ≤ 3%       OUTPUT     380/400/415Vac       Voltage regulation     ± 1%       Frequency     Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDV     ≤ 1% (inenai load); ≤ 4% (non-linear load)       Crest factor     3:1       Overload     105% - 110% for 60min; 110% - 125% for 10min; 125% -150% for 1min; >150% for 0.2s       BATTERIS     36A     48A       DC voltage     ±192/vdc default (±180 ~ ±264 Vdc Settable).     Number of battery       SYSTEM     Depend on the capacity of battery     36A     48A       Ronumber of parallel connections     4     44     60min configuration: SSNM cord, EMP card, WL-Fi card       Operational configuration: RS232, USB, RS485, Dry contacts     0ptional configuration: RS232, USB, RS485, Dry contacts     0ptional configuration: RS232, USB, RS485, Dry contacts       Communications     Standard configuration: RS232, USB, RS485, Dry contacts     0ptional configu	Voltage range	304 – 485Vac (no downgrading), 138V – 304Vac (linear downgrading between 40%-100% load)				
Power factor   ≥ 0.99     Bypass voltage range   -60% - +20%     THOI   ≤ 3%     OUTPUT      Output wiring   Three-phase five-wire (3\u03c9 + N + PE)     Rated voltage   380/400/415Vac     Voltage regulation   ± 1%     Frequency   Synchronized with utility in misms mode, 50/60 Hz ±0.1% in battery mode     Waveform   Pure sine wave     Power factor   1.0     THDV   ≤ 1% (incer load); ≤ 4% (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES   ±192V dc default (±180 ~ ±264 Vdc Settable).     Number of battery   32 pcs 12V VFLA batteries (30-44 pcs settable)     Number of battery   32 pcs 12V VFLA batteries (30-44 pcs settable).     SYSTEM   Efficiency     Efficiency   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel configuration: RS232, USB, RS485, Dry contacts   Optional configuration: RS232, USB, RS485, Dry contacts     Communications   Standard configuration: RS232, USB, RS485, Dry contacts   Optional configu	Rated frequency	50/60Hz (auto-sensing)				
Bypass voltage range THDi	Frequency range	40 – 70Hz				
TDD   ≤ 3%     OUTPUT     Output   Three-phase five-wire (3φ + N + PE)     Rated voltage   380/400/415Vac     Voltage regulation   ± 1%     Frequency   Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode     Waveform   Pure sine wave     Power factor   1.0     THDV   ≤ 1% (inon-linear load)     Creast factor   3.1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES     DC voltage   ±192/vdc default (±180 ~ ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   Standard configuration: RS232, USB, RS485, Dry contacts   Standard configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD louch screen (7" LCD for 160KVA and 200KVA)   OTHERS     Operation temperature   -25%C - 55%C (without battery)   Relation 100m     Relative humidity   0 - 95% (non-condensing)   Altitude     Altitude   ≤ 1000m; above 1000m, dowgrading 1% for each additional 100m <td>Power factor</td> <td colspan="5">≥ 0.99</td>	Power factor	≥ 0.99				
OUTPUT     Intree-phase five-wire (3φ + N + PE)       Output wiring     Three-phase five-wire (3φ + N + PE)       Rated voltage     380/400/415Vac       Voltage regulation     ± 1%       Frequency     Synchronized with utility in mins mode, 50/60 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDv     ≤ 1% (linear load); ≤ 4% (non-linear load)       Crest factor     3:1       Overload     105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s       BATTERIES       DC voltage     ±192/vdc default (±180 ~ ±264 Vdc Settable).       Number of battery     32 pc s12/ VRLA batteries (30-44 pcs settable).       Number of battery     326A     48A       Recharge time     Depend on the capacity of battery       SYSTEM     Efficiency     Max. 96% in online mode, 99% in ECO mode       Transfer time     0 ms       Protections     Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure       Max. number of parallel connections     Standard configuration: RS232, USB, RS465, Dry contacts       Communications     Standard configuration: RS232, USB, RS4	Bypass voltage range	-60% - +20%				
Output wiring     Three-phase five-wire (3φ + N + PE)       Rated voltage     380/400/415Vac       Voltage regulation     ± 1%       Frequency     Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode       Waveform     Pure sine wave       Power factor     1.0       THDv     ≤ 1% (linear load); ≤ 4% (non-linear load)       Crest factor     3:1       Overload     105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s       BATTERES     DEVoltage       DC voltage     ±192/vdc default (±180 ~ ±264 Vdc Settable).       Number of battery     32 pcs 12V VRLA batteries (30-44 pcs settable).       Number of battery     32 pcs 12V VRLA batteries (30-44 pcs settable).       SYSTEM     Efficiency       Efficiency     Max. 96% in online mode, 99% in ECO mode       Tanasfer time     0 ms       Protections     Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure       Max. unber of parallel consections     Qptional configuration: R\$232, USB, R\$485, Dry contacts       Communications     Qptional configuration: R\$232, USB, R\$485, Dry contacts       Optional configuration: R\$232, USB, R\$485, Dry contacts	THDi	≤ 3%				
Rated voltage   380/400/415Vac     Voltage regulation   ± 1%     Frequency   Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode     Waveform   Pure sine wave     Power factor   1.0     THDv   ≤ 1% (linear load); ≤ 4% (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES   BATTERIES     DC voltage   ±192Vdc default (±180 ~ ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode, 99% in ECO mode   Transfer time     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. mober of parallel connections   Standard configuration: R5232, USB, R5485, Dry contacts     Communications   Standard configuration: R5232, USB, R5485, Dry contacts     Optional configuration: SNMP card, EMP card, Wi-Fi card   Display     5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)   OTHERS	OUTPUT					
Voltage regulation $\pm 1\%$ Frequency   Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode     Waveform   Pure sine wave     Power factor   1.0     THDv $\leq 1\%$ (linear load): $\leq 4\%$ (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1.50% for 0.2s     BATTERIES     DC voltage $\pm 192Vdc$ default ( $\pm 180 - \pm 264$ Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)     24A     Open on the capacity of battery     System     Efficiency     Max. 96% in online mode, 99% in ECO mode     Transfer time     Protections     Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections $4$ Communications     Optional configuration: SNMP card, EMP card, Wi-Fi card     Optional configuration: SNMP card, EMP card, Wi-Fi card $-25^{\circ}C - 55^{\circ}C$ (without battery	Output wiring	Three-phase five-wire (3φ + N + PE)				
Frequency   Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode     Waveform   Pure sine wave     Power factor   1.0     THDv   ≤ 1% (linear load); ≤ 4% (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1.s     BATTERIES   BATTERIES     DC voltage   ±192Vdc default (±180 - ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode, 99% in ECO mode   Transfer time     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4   Communications     Optional configuration: SSAMP card, EMP card, Wi-Fi card   Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 - 40°C   Stordge temperature   -25°C - 55°C (without battery)     Relative humidity   0 - 95% (non-condensing)   Attude     Nitude   ≤ 1000m, above 1000m, downgrading 1% for each addit	Rated voltage	380/400/415Vac				
Waveform   Pure sine wave     Power factor   1.0     THDv   ≤ 1% (linear load); ≤ 4% (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES   BATTERIES     DC voltage   ±192Vdc default (±180 ~ ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode, 99% in ECO mode   Transfer time     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4   Communications     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: RS232, USB, RS485, Dry contacts   Optional configuration: RS232, USB, RS485, Dry contacts     Operation temperature   0 – 40°C   Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)   Attude   \$ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20   <	Voltage regulation	± 1%				
Power factor1.0THDv< 1% (linear load); ≤ 4% (non-linear load)	Frequency	Synchronized with utility in mains mode, 50/60 Hz ±0.1% in battery mode				
THDv $\leq 1\%$ (linear load); $\leq 4\%$ (non-linear load)     Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES     DC voltage $\pm 192Vdc$ default ( $\pm 180 \sim \pm 264$ Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode. 99% in ECO mode   4     Transfer time   0 ms   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, fan failure   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts   Optional configuration: RS232, USB, RS485, Dry contacts     Optional configuration: SNMP card, EMP card, Wi-Fi card   Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 - 40°C   Storage temperature $-25^{6}C - 55^{5}C$ (without battery)     Relative humidity   0 - 95% (non-condensing)   Altitude     Altitude $\leq 1000m$ ; above 1000m, downgrading 1% for each additional 100m   IP 20     Noise level at 1m	Waveform	Pure sine wave				
Crest factor   3:1     Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES   DC voltage     Dc voltage $\pm$ 192Vdc default ( $\pm$ 180 - $\pm$ 264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode. 99% in ECO mode   Transfer time   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4   Communications   Quitonal configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card   Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C   Storage temperature $-25^{\circ}$ C – $55^{\circ}$ C (without battery)   Relative humidity   0 – 95% (non-condensing)     Altiude   <1000m; above 1000m, downgrading 1% for each additional 100m	Power factor	1.0				
Overload   105% - 110% for 60min; 110%-125% for 10min; 125%-150% for 1min; >150% for 0.2s     BATTERIES   DC voltage   ±192Vdc default (±180 ~ ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     Efficiency   Max. 96% in online mode, 99% in ECO mode   Transfer time   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4   Communications     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card   Display     Operation temperature   0 - 40°C   Storage temperature   -25°C - 55°C (without battery)     Relative humidity   0 - 95% (non-condensing)   Altitude   1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20   Noise level at 1m   ≤ 65dB   500*1200	THDv	≤ 1% (linear load); ≤ 4% (non-linear load)				
BATTERIES     DC voltage   ±192Vdc default (±180 - ±264 Vdc Settable).     Number of battery   32 pcs 12V VRLA batteries (30-44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery   SYSTEM     SYSTEM   0 ms   Efficiency   Max. 96% in online mode, 99% in ECO mode     Transfer time   0 ms   Oms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altiude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Crest factor	3:1				
DC voltage $\pm 192Vdc default (\pm 180 ~ \pm 264 Vdc Settable).$ Number of battery   32 pcs 12V VRLA batteries (30~44 pcs settable)     Charging current (max.)   24A   36A   48A     Recharge time   Depend on the capacity of battery     SYSTEM     36A   48A     Efficiency   Max. 96% in online mode. 99% in ECO mode        36A   48A     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     4    36A   48A	Overload	105% - 110% for 60min; 110%~125% for 10min; 125%~150% for 1min; >150% for 0.2s				
Number of battery32 pcs 12V VRLA batteries (30~44 pcs settable)Charging current (max.)24A36A48ARecharge timeDepend on the capacity of batterySYSTEMEfficiencyMax. 96% in online mode, 99% in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failureMax. number of parallel connections4CommunicationsStandard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi cardDisplay5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)OTHERS0 – 40°CStorage temperature-25°C – 55°C (without battery)Relative humidity0 – 95% (non-condensing)Altitude≤ 1000m; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m≤ 65dBDimensions (W*D*H) (mm)360*850*1200440*850*1200600*850*1200	BATTERIES					
Charging current (max.)24A36A48ARecharge timeDepend on the capacity of batterySYSTEMEfficiencyMax. 96% in online mode, 99% in ECO modeTransfer time0 msProtectionsShort-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failureMax. number of parallel connections4CommunicationsStandard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi cardDisplay5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)OTHERS0 - 40°COperation temperature $-25°C - 55°C$ (without battery)Relative humidity0 - 95% (non-condensing)Altitude≤ 1000m; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65dB$ Dimensions (W*D*H) (mm)360*850*1200440*850*1200600*850*1200	DC voltage	±192Vdc default (±180 ~ ±264 Vdc Settable).				
Recharge time   Depend on the capacity of battery     SYSTEM   Efficiency   Max. 96% in online mode, 99% in ECO mode     Transfer time   0 ms   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Operation temperature   0 – 25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Number of battery	32 pcs 12V VRLA batteries (30~44 pcs settable)				
SYSTEM     Efficiency   Max. 96% in online mode, 99% in ECO mode     Transfer time   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4     Communications   Standard configuration: R\$232, USB, R\$485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Charging current (max.)	24A 36A 48A				48A
Efficiency   Max. 96% in online mode, 99% in ECO mode     Transfer time   0 ms     Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OPeration temperature     0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Recharge time	Depend on the capacity of battery				
Transfer time0 msProtectionsShort-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failureMax. number of parallel connections4CommunicationsStandard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi cardDisplay5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)OTHERS $0 - 40^{\circ}C$ Operation temperature $0 - 40^{\circ}C$ Storage temperature $-25^{\circ}C - 55^{\circ}C$ (without battery)Relative humidity $0 - 95\%$ (non-condensing)Altitude $\leq 1000m$ ; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65dB$ Dimensions (W*D*H) (mm) $360*850*1200$ Atta Karbon (K*D*H) (mm) $360*850*1200$	SYSTEM					
Protections   Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure     Max. number of parallel connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Operation temperature   0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Efficiency	Max. 96% in online mode, 99% in ECO mode				
Max. number of parallel connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Storage temperature   0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Transfer time	0 ms				
connections   4     Communications   Standard configuration: RS232, USB, RS485, Dry contacts Optional configuration: SNMP card, EMP card, Wi-Fi card     Display   5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)     OTHERS   0 – 40°C     Operation temperature   0 – 40°C     Storage temperature   -25°C – 55°C (without battery)     Relative humidity   0 – 95% (non-condensing)     Altitude   ≤ 1000m; above 1000m, downgrading 1% for each additional 100m     IP rating   IP 20     Noise level at 1m   ≤ 65dB     Dimensions (W*D*H) (mm)   360*850*1200   440*850*1200   600*850*1200	Protections	Short-circuit, overload, overtemperature, excessive low battery, overvoltage, undervoltage, fan failure				
CommunicationsOptional configuration: SNMP card, EMP card, Wi-Fi cardDisplay5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)OTHERSOperation temperature0 – 40°CStorage temperature-25°C – 55°C (without battery)Relative humidity0 – 95% (non-condensing)Altitude≤ 1000m; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m≤ 65dBDimensions (W*D*H) (mm)360*850*1200440*850*1200600*850*1200	-	4				
OTHERSOperation temperature $0 - 40^{\circ}$ CStorage temperature $-25^{\circ}$ C - 55^{\circ}C (without battery)Relative humidity $0 - 95\%$ (non-condensing)Altitude $\leq 1000$ m; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65$ dBDimensions (W*D*H) (mm) $360*850*1200$ 440*850*1200 $600*850*1200$	Communications					
Operation temperature $0 - 40^{\circ}$ CStorage temperature $-25^{\circ}$ C - $55^{\circ}$ C (without battery)Relative humidity $0 - 95\%$ (non-condensing)Altitude $\leq 1000$ m; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65dB$ Dimensions (W*D*H) (mm) $360*850*1200$ $440*850*1200$ IP ratingIP 20	Display	5 inches colorful LCD touch screen (7" LCD for 160KVA and 200KVA)				
Storage temperature $-25^{\circ}C - 55^{\circ}C$ (without battery)Relative humidity $0 - 95\%$ (non-condensing)Altitude $\leq 1000m$ ; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65dB$ Dimensions (W*D*H) (mm) $360*850*1200$ $440*850*1200$	OTHERS					
Relative humidity $0 - 95\%$ (non-condensing)Altitude $\leq 1000m$ ; above 1000m, downgrading 1% for each additional 100mIP ratingIP 20Noise level at 1m $\leq 65dB$ Dimensions (W*D*H) (mm) $360*850*1200$ $440*850*1200$ 600*850*1200 $600*850*1200$	Operation temperature	$0 - 40^{\circ}$ C				
Altitude     ≤ 1000m; above 1000m, downgrading 1% for each additional 100m       IP rating     IP 20       Noise level at 1m     ≤ 65dB       Dimensions (W*D*H) (mm)     360*850*1200     440*850*1200     600*850*1200	Storage temperature	-25°C – 55°C (without battery)				
IP rating     IP 20       Noise level at 1m     ≤ 65dB       Dimensions (W*D*H) (mm)     360*850*1200     440*850*1200     600*850*1200	Relative humidity	0 – 95% (non-condensing)				
Noise level at 1m     ≤ 65dB       Dimensions (W*D*H) (mm)     360*850*1200     440*850*1200     600*850*1200	Altitude	≤ 1000m; above 1000m, downgrading 1% for each additional 100m				
Dimensions (W*D*H) (mm) 360*850*1200 440*850*1200 600*850*1200	IP rating			IP 20		
	Noise level at 1m			≤ 65dB		
Net weight (kg)     156     158     198     250     300	Dimensions (W*D*H) (mm)	360*850*1200	440*85	50*1200	600*85	50*1200
	Net weight (kg)	156	158	198	250	300

All specifications are subject to change without notice
Custom mode approximations are accountable

Custom-made specifications are acceptable

Derate capacity to 90% when the number of batteries is set to 30pcs

2024@version