### **ONLINE 3:3 UPS**



# HYUNDAI

## Online UPS 20KVA (3:3) PF 1.0



#### Features

- Advanced dual-core DSP control and 3-level technology
- Active power factor correction (APFC), input power factor up to 0.99
- Output power factor 1.0
- 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
- Fan speed varies intelligently with load, reducing noise and extending its service life
- Conformal coating technology to make UPS operate in harsh environment for a long time
- Flexible battery configuration setting, selectable battery numbers: 32~ 40 pcs
- Digitally controlled charger
- 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
- Compact internal layout, small footprint
- 5 inches LCD colorful touch screen, friendly human & machine interface
- Powerful background software for parameters configuration and online upgrade
- Advanced multi-platform communications for UPS monitoring: RS232, USB, RS485; dry contacts, SNMP card, Parallel port, EPO
- Linear derating in low voltage input, reducing battery discharging times, extending the service life of battery
- Effective hardware and software protection, robust self-diagnosis function, abundant event log for future check

2023@version



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

## ONLINE 3:3 UPS



# HYUNDAI

### Specifications

#### 20KVA 3 phase online UPS

Capacity20KVA/20KWTechnologyTrue online high frequency double convesion technologyDesignTrue online high frequency double convesion technologyGenerator connectionSupportOperating modesOnline mode/ normal mode; On battery mode; Du static bypass mode; On manual bypass/maintenance bypass mode; On FCO/ Economic mode; Aut-orstatic mode; Frequency converter mode; Self Aging modesINPUTPresePhaseOnline mode/ 100% (load)Input voltage range304 * 478VAC (online mode/ 100% load); frequencyInput voltage range0.90 at 100% loadFrequency0.90 at 100% loadFrequency0.90 at 100% loadPower factor0.90 at 100% loadFore factor0.90 at 100% loadFore factorElectoric bypass mode/ User's control over bypass (MBS) LCD control panelFrequencyTransfer the UPS to Bypass mode/ User's control over bypass operation or automaticBYPASSIteraface with R5222, USB, output-input signals, SNMP, modus RTU, parallel port, EPOSystem ComponentTransfer the UPS to Bypass mode/ User's control over bypass operation or automaticBypass voltage range125% LCD control panelVoltage0.125% LCD control panelVoltage125% LCD control panelSystem ComponentTransfer the UPS to Bypass mode/ User's control over bypass operation or automaticBypass voltage range125% LCD control panelVoltage125% LCD control panelVoltage125% LCD control panelVoltage125% LCD control panelVoltage125% LCD con	MODEL	HD-20KP3
Tree online high frequency double conversion technology     Design   Tower case     Generator connection   Support     Operating modes   Online mode/ normal mode; On battery mode; On static bypass mode; On manual bypass/ maintenance bypass mode; On ECO/ Economic mode; Auto-restart mode; Frequency converter mode; Self Aging mode.     INPUT   Present mode/ frequency   Support     Phase   Three-phase + Neutral     Norminal voltage   30/4 * 478/CK (nulne mode/ 100% load); input voltage range   30/4 * 478/CK (nulne mode/ 100% load); input voltage range     Frequency   Solfolit (Auto select)   Select)     Frequency range   40°DWL; (SDRL* Select)   Select)     Frequency range   40°DWL; (SDRL* Select)   Select)     Frequency range   Electronic bypass switch; Maintenance bypass (MBS); LCD control panel     Interface with RS232, USB, output-input signals, SMMP, modus RTU, parallel port, EPO     System Components   Electronic automatic bypass mode/ User's control over bypass operation or automatic     BYPAS5   Electronic automatic bypass (MIS); LCD on the front panel)     Outlage   30/4*07415VAC Three-phase + Neutral     Bypass overload capacity   125%: Long term operation; 125%: 120%: 120%: 120%: 120%: 120%: 120%: 120%	Capacity	20KVA/20KW
Design   Tower case     Generator connection   Support     Operating modes   Online mode/, normal mode; On battery mode; On statte bypass mode; On manual bypass/maintenance bypass mode; On ECO/ Economic mode; Auto-restart mode; Frequency converter mode; Self Aging mode.     INPUT   ************************************	Technology	True online high frequency double conversion technology
Generator connection   Support     Operating modes   Online mode/ normal mode; On battery mode; On static bypass mode; On manual bypass/maintenance bypass mode; On ECO/ Economic mode; AU-restart mode; Frequency converter mode; Self Aging mode.     INPUT   Three-phase + Neutral     Phase   Three-phase + Neutral     Norminal voltage   304 ~ 478VAC (online mode/ 100% load); input voltage range     Input voltage range   304 ~ 478VAC (online mode/ 100% load); input voltage range     Frequency range   40~70Hz; (S0Hz: 44~56Hz; 60Hz; 55~65Hz)     Power factor   20.99 at 100% load     THDI   53% (Full linear load)     Frequency range   40~70Hz; (S0Hz: 44~56Hz; 60Hz; 55~65Hz)     Power factor   20.99 at 100% load     THDI   53% (Full linear load)     Frequency range   40~70Hz; (S0Hz: 44~56Hz; 60Hz; 55~65Hz)     Power factor   20.99 at 100% load     THDI   58% (Full linear load)     THDI   58% (Full linear load)     THOI   58% (Full linear load)     Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic     BYPASS   Transfer the UPS to Bypass (Auto or display control from LCD on the front panel)     Voltage <th>Design</th> <th>Tower case</th>	Design	Tower case
Operating modes   Online mode/ normal mode; On battery mode; On static bypass mode; Self Aging mode.     INPUT   Description     Phase   Three-phase + Neutral     Norminal voltage   3004 47878/AC (online mode/ 100% load); 190°5/20VAC (50% load)     Frequency   Solf/Add/455VAC     Power factor   3004 47878/AC (online mode/ 100% load); 190°5/20VAC (50% load)     Frequency range   40°70Hz; (50Hz; 44°56Hz; 60Hz; 55°65Hz)     Power factor   309 at 100% load     Power factor   308 at 23% (Full linear load)     Frequency range   100 at 23% (Full linear load)     System Components   Electronic bypass woldcy, Maintenance bypass (MB5); LCD control panel     Electronic bypass woldcy (Maintenance bypass (MB5); LCD control panel   Interface with R5232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     System Components   Interface with R5232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     System Component   Interface with R5232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     System Component   Interface with R5232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     System Component   Interface with R5232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     Voltage	Generator connection	Support
INPUT   Inter-phase Heutral     Phase   Three-phase Heutral     Norminal voltage   380/400/415VAC     Input voltage range   304 ~ 478VAC (online mode/ 100% load); 190~520VAC (50% load)     Frequency   500/60Hz (Auto select)     Frequency range   40 ~ 070Hz (S0Hz (Auto select))     Power factor   20.99 at 100% load     THDI   Electronic bypass switch, Maintenance bypass (MBS); LCD control panel     Interface with R5232, USB, output-input signals, SMMP, modbus RTU, parallel port, EPO   > 2200mV for DC component     System Components   Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic     BYPASS   200mV for DC component     Technology   Electronic automatic bypass (Auto or display control from LDO on the front panel)     Voltage   304 ~ 478VAC (100% load;     Bypass voltage range   304 ~ 478VAC (100% load;     Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range   125%: Long term operation; 125% ''130%: Long term operation; 125% ''130%; Long term operatio; 125% ''130%; Long term operatio; 125% ''130%; Long term operat	Operating modes	Online mode/ normal mode; On battery mode; On static bypass mode; On manual bypass/ maintenance bypass mode; On ECO/ Economic mode; Auto-restart mode; Frequency converter mode; Self Aging mode.
PhaseIntre-phase + NeutralNormia VoltageGOODAL STACCInput voltage rangeGOODAL STACC (SOM Load): 190°-520VAC (SOM Load): 	INPUT	
Norminal voltage380/400/415VACInput voltage range304° 478VAC (online mode/ 100% load): 105°20VAC (SOK load)Frequency9Frequency range0Ower factor0Bower factor0Automatication0System Components1End to the	Phase	Three-phase + Neutral
input voltage range304 ~ 478VAC (conine mode/ 100% load); 190~520VAC (S0% load)FrequencyInstanceFrequency rangeInstancePower factorInstancePower factorInstance<	Norminal voltage	380/400/415VAC
FrequencySO/60Hz (Auto select)Frequency rangeGAGAO'TOHz, (SOHz, 4x-SGHz, GOHz, 5S-SSH2)Power factorSO.99 at 100% loadTbDiGAGAO'SOHZ (Auto select)FrequencyGAGAO'SOHZ (Auto select)System ComponentsGELEctronic bypass switch; Maintenance bypass (MSS); LCD control panelGAGAO'SON (MSS); CDD componentGAGAO'SON (MSS); CDD componentTransfer the UPS to Bypass mode/ User's control over bypass operation or automaticBYPASSGELEctronic bypass (Auto or display control from LCD on the front panel)VoltageSON/400/A15VAC Three-phase + NeutralBypass voltage rangeL25%: Long term operation; 125%: 100%; 100%; 100%; 100%; 100%; 40%;Bypass voltage range125%: Long term operation; 125%: 100%; 100%; 100%; 100%; 100%; 100%; 100%; 100%;OUTPUTSon/400/A15VAC; Selectable from LCD on the front panelVoltageS1CapacityS1VoltageS0/60/A15VAC; Selectable from LCD on the front panelVoltageS1FrequencyS0/60/A15VAC; Selectable from LCD on the front panelVoltageS1Power factorS1FrequencyS0/60/A15VAC; Selectable from LCD on the front panelStorige factorS1S0/60/A15VAC; Selectable from LCD on the front panelVoltageS0/60/A15VAC; Selectable from LCD on the front panelPower factorS1S1S1S1S1S1S1S1S1S1S1S1S1S0/60/A12 (auto select or settable from	Input voltage range	304 ~ 478VAC (online mode/ 100% load); 190~520VAC (50% load)
Frequency range40°70Hz; (S0Hz: 44°56Hz; 60Hz: S5°65Hz)Power factor0.90.93 ti 100% loadTHDI0.90.93 ti 100% loadTHDI0.90.93 ti 100% loadTHDI0.90.93 ti 100% loadSystem ComponentsElectronic bypass switch; Maintenance bypass (MBS); LCD control panelElectronic bypass switch; Maintenance bypass (MBS); LCD control panelTechnology0.100 to ComponentTechnologyElectronic automatic bypass (Auto or display control from LCD on the front panel)Voltage0.100 to ComponentBypass voltage range1.25%: Long term operation; 125%: 100% load; Bypass load capacityBypass overload capacity1.25%: Long term operation; 125%: 100%: 1:5%: 400%: less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating current Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating current 	Frequency	50/60Hz (Auto select)
Power factor≥0.99 at 100% loadTHDiThDiSystem ComponentsElectronic bypass switch; Maintenance bypass (MSD); LCD control panelElectronic bypass switch; Maintenance bypass (MSD); LCD control panelInterface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPOSystem ComponentsElectronic automatic bypass mode/ User's control over bypass operation or automaticBYPASSTechnologyElectronic automatic bypass (Auto or display control from LCD on the front panel)VoltageBypass voltage rangeUp limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%Bypass overload capacitySystem ComponentSystem ComponentSystem ComponentVoltageBypass overload capacityDUTPUTCapacitySystem ComponentSystem ComponentSystem ComponentSystem ComponentSystem ComponentBypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUTCapacityCotar cationSystem ComponentSystem ComponentSystem ComponentSystem ComponentSystem ComponentSystem ComponentSystem ComponentSystem Component	Frequency range	40~70Hz; (50Hz: 44~56Hz; 60Hz: 55~65Hz)
THDiGenerationFHDiSystem ComponentsApprox 1000000000000000000000000000000000000	Power factor	≥0.99 at 100% load
Rectifier- Charger; Battery; Inverter     Electronic bypass switch; Maintenance bypass (MBS); LOZ control panel     Interface with R5232, USB, output-input signals, SMMP, modbus RTU, parallel port, EPO     S200mV for DC component     Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic     BYPASS     Technology     Voltage     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     UP limited: stor, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     OUTPUT     Capacity   20kW     Voltage   3 phases 380/400/415VAC; Selectable from LCD on the front panel     Voltage   3 phases 380/400/415VAC; Selectable from LCD on the front panel     Voltage   3 phases 380/400/415VAC; Selectable from LCD	THDi	≤3% (Full linear load)
Electronic bypass switch; Maintenance bypass (MBS); LCD control panel     Interface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     System Components     BYPASS     Technology     Voltage     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%     Bypass voltage range     Up limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%     System Components     OUTPUT     Capacity     Voltage     Oldage regulation     System Component     System Component     Frequency     +5% (Main mode); 50/60Hz ( auto select or settable from LCD on the front panel)     +5% (Main mode); 50/100% Lon-Linear load)     Power factor     THov     Sinusoidal/ Pure sine wave     Transfer		Rectifier- Charger; Battery; Inverter
System Components   Interface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     S200mV for DC component   S200mV for DC component     Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic     BYPASS   Interface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     Bypass voltage range   Interface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO     Bypass voltage range   3004/415VAC Three-phase + Neutral     Bypass voltage range   125%: Long term operation; 125% r130%; 100mi; r130% r150%; 1min (default); 150% r400%; 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     OUTPUT   Interface     Capacity   S14 (static load); 0-100%-0: s13% (dynamic load)     Voltage   31     Frequency   S0/60Hz (auto select or settable from LCD on the front panel)     ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)   15% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)     ThDv   S11   S11     Power factor   Mains mode to bypass mode: Oms; Inverter mode to bypass mode: Oms     Rot circuit characteristic   Mains mode to bypass mode: Oms (Inverter mode to bypass mode: Oms     Roter factor		Electronic bypass switch; Maintenance bypass (MBS); LCD control panel
s200mV for DC component     Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic     BYPASS     Technology     Voltage     Bypass voltage range     Up limited: +10%, +15%, +20%, -10%, -10%, -20%, -30%, -40%     Bypass voltage range     125%: Long term operation; 125% 10min; >130% -150%; 1min (default); 150% -400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     OUTPUT     Capacity     Voltage regulation     Crest ratio     Strip context     Strip context     Prequency     1400 List (static load); 0-100% loss; 100% Non-linear load)     Power factor     Tansfer time     May of the context operation; 125% (loss than 200ms     Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     OUTPUT     Capacity     Coltage regulation     Crest ratio     Frequency     150% 600Hz ( auto select or settable from LCD on the front panel)     155% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)     10     Wave	System Components	Interface with RS232, USB, output-input signals, SNMP, modbus RTU, parallel port, EPO
Image: Constant of the CPS to Bypass mode/ User's control over bypass operation or automaticBYPASSElectronic automatic bypass (Auto or display control from LCD on the front panel)VoltageElectronic automatic bypass (Auto or display control from LCD on the front panel)Bypass voltage rangeUp limited: +10%, +15%, +20%, +25%, Down limited: -10%, -15%, -20%, -30%, -40%Bypass overload capacity125%: Long term operation; 125% '130%: 10mir; >130%''150%: 1min (default); 150%''400%: 1s; >400% (less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUTCapacityCapacity20kWVoltage regulation≤1% (static load); 0-100%-0: ≤±3% (dynamic load)Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor10Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure		≤200mV for DC component
BYPASSTechnologyElectronic automatic bypass (Auto or display control from LCD on the front panel)Voltage380/400/415VAC Three-phase + NeutralBypass voltage rangeUp limited: ±10%, ±20%, ±20%, ±20%, ±00% load; Up limited: ±10%, ±15%, ±20%, ±20%, ±00% load; Up limited: ±10%, ±15%, ±20%, ±20%, ±00% loss than 200msBypass overload capacity125%: Long term operation; 125% 100% loss than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUT20kWCapacity20kWVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage regulation≤±1% (static load); 0·100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); 50% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure		Transfer the UPS to Bypass mode/ User's control over bypass operation or automatic
TechnologyElectronic automatic bypass (Auto or display control from LCD on the front panel)Voltage380/400/415VAC Three-phase + NeutralBypass voltage rangeUp limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%Bypass overload capacity125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default); 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUT20kWCapacity20kWVoltage regulation≤11% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv51% (100% Linear load); 53% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	BYPASS	
Voltage   380/400/415VAC Three-phase + Neutral     Bypass voltage range   304~478VAC @ 100% load; Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%     Bypass overload capacity   125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default); 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent     OUTPUT   20kW     Voltage   3 phases 380/400/415VAC; Selectable from LCD on the front panel     Voltage regulation   ≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)     Crest ratio   3:1     Frequency   50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)     THDv   51% (100% Linear load)     Power factor   1.0     Wave form   Sinusoidal/ Pure sine wave     Transfer time   Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms     Short circuit characteristic   Current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Technology	Electronic automatic bypass (Auto or display control from LCD on the front panel)
Bypass voltage range304~478VAC @ 100% load; Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%Bypass overload capacity125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default); 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUT20kWCapacity20kWVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage regulation≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤11% (100% Linear load); <3% (100% Non-linear load)	Voltage	380/400/415VAC Three-phase + Neutral
Bypass voitage rangeUp limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%Bypass overload capacity125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default); 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUTCapacity20kWVoltage regulation≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); C100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Bunass voltago rango	304~478VAC @ 100% load;
Bypass overload capacity125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default); 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curentOUTPUTCapacity20kWVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage regulation≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv<1Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	bypass voltage range	Up limited: +10%, +15%, +20%, +25%; Down limited: -10%, -15%, -20%, -30%, -40%
Bypass overload capacity 150%~400%: 1s; >400% less than 200ms Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent   OUTPUT Capacity   Capacity 20kW   Voltage 3 phases 380/400/415VAC; Selectable from LCD on the front panel   Voltage regulation ≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)   Crest ratio 3:1   Frequency 50/60Hz ( auto select or settable from LCD on the front panel)   ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)   THDv <10   Power factor 1.0   Wave form Sinusoidal/ Pure sine wave   Transfer time Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms   Short circuit characteristic Current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure		125%: Long term operation; 125%~130%: 10min; >130%~150%: 1min (default);
OUTPUT   20kW     Capacity   20kW     Voltage   3 phases 380/400/415VAC; Selectable from LCD on the front panel     Voltage regulation   ≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)     Crest ratio   3:1     Frequency   50/60Hz ( auto select or settable from LCD on the front panel)     ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)     THDv   ≤1% (100% Linear load); ≤3% (100% Non-linear load)     Power factor   1.0     Wave form   Sinusoidal/ Pure sine wave     Transfer time   Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms     Short circuit characteristic   Current limit to 2.2 times for ≥100ms     Protections   Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Bypass overload capacity	150%~400%: 1s; >400% less than 200ms
OUTPUTCapacity20kWVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage regulation≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure		Bypass load capacity is controlled by bypass circuit breaker, tripping when circuit breaker operating curent
Capacity20kWVoltage3 phases 380/400/415VAC; Selectable from LCD on the front panelVoltage regulation≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	OUTPUT	
Voltage 3 phases 380/400/415VAC; Selectable from LCD on the front panel   Voltage regulation ≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)   Crest ratio 3:1   Frequency 50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)   THDv <10   Power factor 1.0   Wave form Sinusoidal/ Pure sine wave   Transfer time Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms   Short circuit characteristic Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Capacity	20kW
Voltage regulation <td< th=""><th>Voltage</th><th>3 phases 380/400/415VAC; Selectable from LCD on the front panel</th></td<>	Voltage	3 phases 380/400/415VAC; Selectable from LCD on the front panel
Crest ratio3:1Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit to 2.2 times for ≥100msProtectionsElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Voltage regulation	≤±1% (static load); 0-100%-0: ≤±3% (dynamic load)
Frequency50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit to 2.2 times for ≥100msProtectionsElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Crest ratio	3:1
THDv≤1% (100% Linear load); ≤3% (100% Non-linear load)Power factor1.0Wave formSinusoidal/ Pure sine waveTransfer timeMains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0msShort circuit characteristicCurrent limit to 2.2 times for ≥100msProtectionsElectronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Frequency	50/60Hz ( auto select or settable from LCD on the front panel) ±5% (Main mode); ±0.1% (Battery mode); ±0.25% (Parallel operation)
Power factor 1.0   Wave form Sinusoidal/ Pure sine wave   Transfer time Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms   Short circuit characteristic Current limit to 2.2 times for ≥100ms   Protections Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	THDv	≤1% (100% Linear load); ≤3% (100% Non-linear load)
Wave form Sinusoidal/ Pure sine wave   Transfer time Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms   Short circuit characteristic Current limit to 2.2 times for ≥100ms   Protections Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Power factor	1.0
Transfer time Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms   Short circuit characteristic Current limit to 2.2 times for ≥100ms   Protections Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Wave form	Sinusoidal/ Pure sine wave
Short circuit characteristic   Current limit to 2.2 times for ≥100ms     Protections   Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Transfer time	Mains mode to bypass mode: 0ms; Inverter mode to bypass mode: 0ms
Protections Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure	Short circuit characteristic	Current limit to 2.2 times for ≥100ms
	Protections	Electronic short-circuit, current limit, overload, overtemperature, battery low voltage, battery discharge, overvoltage, undervoltage, and fan failure
<b>Overload</b> ≤110%: 60min; ≥111%~125%:10min; ≥126%~150%:1min; >150%: 500ms	Overload	≤110%: 60min; ≥111%~125%:10min; ≥126%~150%:1min; >150%: 500ms

Outlet		Hard wiring with terminal block
BATTERIES		
DC voltage		±192VDC (default)
Battery type		VRLA 12V (sealed lead-acid maintenance free battery), ≥3 years BAT life Batteries are distributed according to the battery power source into the battery cabinet
Number batte	ry	32 pcs
Backup time		Depend on the capacity of battery
Extended battery pack		Depend on the capacity of battery to increase longer runtime, Max connect with 6 battery pack; Design battery pack/cabinets according to the required capacity
Charging current		10A max
Battery managements		Advanced battery management helps: Smart charging time, temperature compensated battery charging, slow charging to increase battery service life, optimize recharge time, and provide a warning before the end of useful battery life. Automatic battery test, Low battery warning, Depp Dish.
SYSTEMS		
Efficiency		≥96% at online mode @25~100% load; ≥99% at ECO mode; ≥93% at Battery mode
Parallel connections (RPA)		≥4 (Optional)
	LCD Display	5"LCD touch screen display/ Controlled by micro processor
	LED Display	Flash and Alarms
Control & Interface	Measurements	Setup UPS operating; Ups operating status by LCD; Input voltage/rectifier; output voltage; load; load level; current; backup time; battery voltage; battery curent; input bypass voltage; input bypass frequency; temperature; charging; discharging; fault; Display and handle error according to error code; Events alarms & messages; Storage-display code all list of history log, Event logging in memory with date, time and description of the events.
	Communications	RS232 with monitoring software; Management program via RS232 computer connection protocol. Monitor the UPS operation and provide data protection for all operation systems (OS)
		SNMP port/SNMP card (optional) connect UPS with Web browser, UPS can be monitoring and management remotely through the UPS Web interface. Achieve communication & manage by communication network management systems.
		RPA (optional)/ EPO- Emergency power off
		RS485 (Modbus RTU card provides connection to Modbus protocol with standard RS485 signal)
		Dry contact for Dry in and Dry out signal
Compliance		IEC62040-1/2 IEC/EN61000-4-2/3/4/5/6/8; IEC/EN61000-2
OTHERS		
Operation temperature		0 ~ 40°C; -40°C ~ 70°C (Storage temperature)
Relative humidity		0 ~ 95% (non-condensing)
Altitude		< 1000m, Load derated 1% per 100m from 1000-2000m
IP rating		IP 20
Noise level at 1m		≤58dB @ 100% load; ≤55dB @ 50% load
UPS Dimensions (W*D*H),mm		250*720*560
UPS weight (kg)		33

• All specifications are subject to change without notice

