Online three phase UPS

Key features

• High frequency online True double-conversion design with high adaptability to harsh mains conditions

• Dual-core DSP control and 3- level technology enables precise and reliable control

• High efficiency results in energy saving; Real PF1.0 can provide more power in the same space

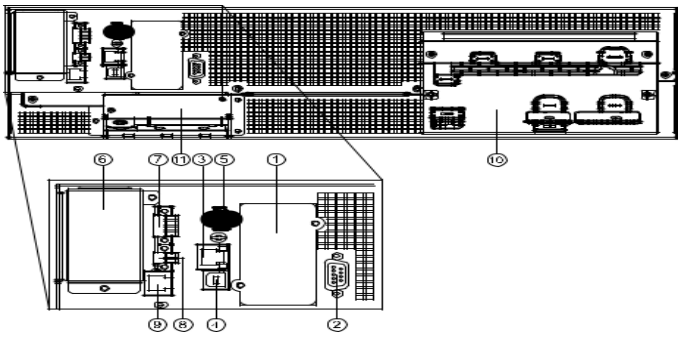
• Adjustable charging current and flexible battery configuration

• Start-able without battery

• Smart charging method to expand battery life time

• 3-3 is default model and can be configure as 3-1 or 1-1 model to meet utility and load wiring. 3-3 model can be configure as single source input or dual source input for utility and bypass

• Built-in OVCD protection, short circuit protection, fan lock detection, over temperature detection, overvoltage-undervoltage detection, low battery, overload warning to enhance the product reliability



RS232/USB HID enable monitoring on UPS without software installation

• Embedded Ethernet port solution provide safe network connection to Cloud which will meet the increasing IoT trend (optional). Real time operation monitoring. Reduce the responsive time on product failure as Cloud push the exact information to end user and service people at the same time

LED with alarms and sounds when wrong shutdown, low battery, overload, fault..

• Low audible noise at typical load

• Programemable outlet group will extend backup time for most critical equipment (optional - PDU model)

• Upgraded network card compliance with IEC standard cybersecurity.

• MBP+PDU with load segment control (optinal)

1. Intelligent slot
2. RS232
3. Ethernet port (RJ45, for IoT function)
4. USB
5. Wireless (HDMI, For IoT function)
6. Parallel port (optional by factory, default is no)
7. DRY in/out
8. EPO
9. RJ45 (for EBM detection/RT MBP detection)
10. AC input/output port (terminal block)
11. External battery port (terminal block)

Online three phase UPS

Product specification

Model name	Specification	EC20KR3
General	Technology	True online double conversion technology
	Design	Rack-mount 3U
	Phase	3-3; Can be configured as 3-1 or 1-1
	Capacity	20kVA/20kW
Efficiency	Double coversion mode with 100% load	≥96%; ≥98.8% (ECO mode)
Input performance	Rated voltage	3 phase 380/400/415Vac
	Voltage range	160-300V(273-520V) 100% load; 100-160V(173-273V) derating to 50% load linearly
	Rated frequency	50Hz/60Hz
	Frequency range	40~70Hz; 45Hz-55Hz or 54Hz-66Hz(@ load>60%)
	PF	>0.995
	THDi	<3% linear load; <5% non linear load
Input connection	Wiring/socket	L1/L2/L3/N/PE or L/N/PE hardware terminnal connection
Output performance	Rated voltage	220/230/240V or 380/400/415V
	Voltage accuracy	±1%
	Rated frequency	50Hz/60Hz
	Frequency range	Synchronized with utility in main mode; ±0.1% in battery mode
	Maximum PF	1.0
	THDu	<1% linear load; <5% non linear load
	Transfer time	0ms
	Crest ratio	max 3:1
	Overload(inverter mode)	100%<load≤105% continuous; 105%< load ≤125% for 10 minutes transfer to Bypass 125<load≤150% for 1minute transfer to Bypass; >150% for 500ms minutes transfer to Bypass
Output connection	Wiring/socket	L1/L2/L3/N/PE or L/N/PE hardware terminnal connection
Batteries	Voltage	±240VDC
	Type	VRLA 12VDC(Valve-Regulated Sealed Lead-Acid maintenance free battery)
	Backup time	Depend on the capacity of battery
	Charging current	2A(0-13A adjustable)
	External battery module	Maximum connect 6 modules
	Battery management	Automatic battery test, warning before the end of useful battery life, Energy Metering. Automatic equalized and float charging control, charger dormancy control, improving the reliability of charger and extending the battery life.
Physical performance	Dimension(W*D*H)MM	438*559*129(power module, 3U)
	Net weight(KG)	24.8
	IP protection level	IP20
	CVCF	Yes (derating to 60% load)
	Parallel	Optional (up to 3)
	Operating modes	Online, battery, bypass, manual bypass, high efficiency

Operating	Protections	Built-in OVCD protection, short circuit protection, fan lock detection, over temperature detection, overvoltage-undervoltage detection, low battery, overload warning to enhance the product reliability. Protection by Aptomat and Fuse Auto transfer to bypass when UPS overload and fault. Protect software and hardware effectively with the function of self-diagnosing code errors, checking, and storing UPS historical data
	Display control	LCD display with Management and monitoring UPS operations, load, backup time, voltage, frequency, battery, fault..
		LED with alarms and sounds when wrong shutdown, low battery, overload, fault..
	Communications	RS232 with UPS management program via RS232 computer connection protocol. Auto shutdown or control PC/server before UPS stops working. Support Android/iOS. Monitoring & shutdown software for Vmware, Hyper-V, Citrix Xen, Windows, Linux...
HMI	Display	Color touch LCD 5" or Dot matrix LCD, rotatable 90°
	Language	10 languages, default English
	USB	USB 2.0 with HID
	RS232	Yes (DB9)
	Dry in/out	1 programble dry in; 1 programble dry out
	EPO	Emergency Power Off
	Inteligent slot	Yes (for long card)
	SNMP Network card EMP card	Remotely manage the UPS by using a network management system to control and help to protect the system via the network (Optional –SNMP/NMC long card); Environmental temperature and humidity monitoring device (Optional - EMP card)
	Modbus card	Optional- CMC/Modbus Long Card
	Dry contactor card	Optional - AS400 Long Card
	WLAN module	Optional - HDMI type
	Ethernet port for IoT	Optional, Easy to setup the Safe connection to Cloud. Connect to Cloud through MQTT protocol
	Monitor software	Winpower software license via RS232, configuration to 30 missions
Environment	Operating temperature	0-40°C
	Storage temperature	-15°C ~ 40°C(without battery)
	Relative Humidity	0-95%
	Operating Altitude	0~4000m（the load derating 1 % every up 100m @1000~4000m）
	Acoustic Noise	≤55dB @ typical load with battery fully charged
Accessories	Maintenance bypass switch	(Optional - MBP model)
	Input/output power cable	Yes
	EBM cable	Yes (in EBM)
	USB/RS232 cable	Yes
	Tower Feet	N/A
	Rack ear	Yes
	Manual	Yes

BATTERY RACK (EBM) SPECIFICATION

MODEL	BR20-9A
	BATTERY SYSTEM
Battery type	VRLA 12VDC (sealed lead-acid maintenance free battery)
Typical battery recharging time	3h (to 90% of full capacity)
Typical battery life	3-5 years, depend on discharging cycle and ambient temperature
System voltage	±240Vdc
Battery quantity	40PCS (3U) *2 system(6U)
Capacity	7AH/9AH
Backup time full load	≥10mins
	PHYSICAL
Battery Rack design	The battery cabinet is made of powder-coated iron. Safely suitable for electrical appliances
Dimension W*D*H (mm)	438*559*129 3U *2 system
Net weight (kg)	60.5 *2
	ENVIRONMENT
Safety	CE
Operating environment	$0^{o}C$ – $40^{o}C$
Relative humidity	0-95% (non condensing)
Noise level	≤55dB at 1m