

HERCULES COMBO IoT Series

10-20 kVA

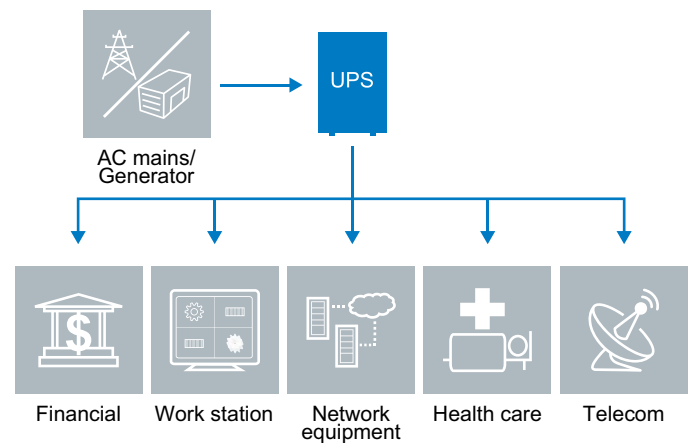


Key features

- True double-conversion design with high adaptability to harsh mains conditions
- Real PF 1 can provide more power in same space
- High efficiency results in energy saving
- Adjustable charging current and flexible battery configuration
- Optimized charging method to expand battery life time
- 10-20K 3-3 model can be configure as 3-1 or 1-1 model to meet utility and load wiring
- 10-20K 3-3 model can be configure as single source input or dual source input for utility and bypass

- Built-in OVCD protection, fan lock detection, over temperature detection, overload warning to enhance the product reliability
- Automatic detect additional EBM quantity will simplify EBM installation for IT users
- Low audible noise at typical load
- Dot matrix LCD support up to 10 languages for easy installation and service. 10-20K 3-3 model support Color touchable LCD display with gravity sensors
- Embedded Ethernet port solution provide safe network connection to Cloud which will meet the increasing IoT trend
- WLAN module for IoT connection
- Mobile APP for monitoring, configuration. Support Android/iOS
- USB HID enable monitoring on UPS without software installation
- Dry contactor for industrial condition
- Upgraded network card compliance with IEC standard cybersecurity

Typical application



Product specification

Model name		HE-COMBO-IoT 10K 3-1	HE-COMBO-IoT 10KS 3-1	HE-COMBO-IoT 10K 3-3	HE-COMBO-IoT 10KS 3-3
Power rating	VA/Watt	10000VA/10000W	10000VA/10000W	10000VA/10000W	10000VA/10000W
Efficiency	Double conversion mode	95%	95%	95%	95%
	ECO mode	98%	98%	98%	98%
Input performance	Voltage range	160-275V 100% load, 110-160V derating to 50% load linearly	160-275V 100% load, 110-160V derating to 50% load linearly	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly
	Rated frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
	Frequency range	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)
	PF	>0.95 at 3 phase input >0.99 at 1 phase input	>0.95 at 3 phase input >0.99 at 1 phase input	>0.995	>0.995
	THDI	<30% at 3 phase input <5% at 1 phase inut	<30% at 3 phase input <5% at 1 phase inut	<3% linear load <5% non linear load	<3% linear load <5% non linear load
Input connection		L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass	L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass
Output performance	Rated voltage	220/230/240V	220/230/240V	220/230/240V or 380/400/415V	220/230/240V or 380/400/415V
	Rated frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
	Maximum PF	1	1	1	1
	Voltage accuracy	±1%	±1%	±1%	±1%
	THDv	<1% linear load <5% non linear load	<1% linear load <5% non linear load	<1% linear load <5% non linear load	<1% linear load <5% non linear load
	Transfer time	0ms(10ms @ ECO->Inverter)	0ms(10ms @ ECO->Inverter)	0ms(2ms @ ECO+ ->Inverter)	0ms(2ms @ ECO+ ->Inverter)
	Crest Ratio	max 3:1	max 3:1	max 3:1	max 3:1
Overload	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 30 seconds. >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 30 seconds. >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	
Output connection	Wiring/socket	L/N/PE hardware terminal connection	L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection
Battery	Voltage	192VDC(192~240VDC adjustable)	192VDC(192~240VDC adjustable)	192VDC(192~240VDC adjustable)	192VDC(192~240VDC adjustable)
	Capacity(AH)	16*12V/9Ah, 16~20pcs adjustable	NA	2*8*12V/9Ah, 16~20pcs adjustable	NA
	Backup time Typical value by default battery capacity, PF=1	"2.1min 100% load 8min 50% load"	NA	"1.8min 100% load 4.5min 50% load"	NA
Maximum connect external battery module quantity		6	6	6	6

Product specification

Model name		HE-COMBO-IoT 10K 3-1	HE-COMBO-IoT 10KS 3-1	HE-COMBO-IoT 10K 3-3	HE-COMBO-IoT 10KS 3-3
Charger	Charging current	2A(0-12A adjustalbe)	4A(0-12A adjustalbe)	2A(0-13A adjustalbe)	2A(0-13A adjustalbe)
	Recharging time	3h to 90%	NA	3h to 90%	NA
Other working mode	CVCF	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)
	Parallel	Optional (up to 3)	Optional (up to 3)	Optional (up to 3)	Optional (up to 3)
HMI(human-machine interface)	Display	Dot matrix LCD	Dot matrix LCD	colour touch LCD (optional Dot matrix LCD)	colour touch LCD (optional Dot matrix LCD)
	Language	10 Languages	10 Languages	10 Languages	10 Languages
	USB	USB 2.0 with HID	USB 2.0 with HID	USB 2.0 with HID	USB 2.0 with HID
	RS232	Yes(DB9)	Yes(DB9)	Yes(DB9)	Yes(DB9)
	Dry in/out	1 programble dry in; 1 programble dry out	1 programble dry in; 1 programble dry out	1 programble dry in; 1 programble dry out	1 programble dry in; 1 programble dry out
	EPO	yes	yes	yes	yes
	Intelignet slot	yes(for long card)	yes(for long card)	yes(for long card)	yes(for long card)
	Network card	Optional, NMC long card	Optional, NMC long card	Optional, NMC long card	Optional, NMC long card
	Modbus card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card
	Dry contactor card	Optional,AS400 Long Card	Optional,AS400 Long Card	Optional,AS400 Long Card	Optional,AS400 Long Card
	WLAN module	Optional,HDMI type	Optional,HDMI type	Optional,HDMI type	Optional,HDMI type
	Ethernet port for IOT	RJ45	RJ45	RJ45	RJ45
Monitor software	Winpower	Winpower	Winpower	Winpower	
Physical performance	Dimension(W*D*H)MM	220*492*589	220*492*589	350*650*890	350*650*890
	IP protection level	IP20	IP20	IP20	IP20
Environment	Operating temperature	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)
	Relative Humidity	0-95%	0-95%	0-95%	0-95%
	Operating Altitude	0~3000m (the load derating 1 % every up 100m @1000~3000m)	0~3000m (the load derating 1 % every up 100m @1000~3000m)	0~4000m (the load derating 1 % every up 100m @1000~4000m)	0~4000m (the load derating 1 % every up 100m @1000~4000m)
	Acoustic Noise	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged
Certification		CE,IEC/EN 62040	CE,IEC/EN 62040	CE,IEC/EN 62040	CE,IEC/EN 62040
EMI	Conduction/Radiation	C3	C3	C3	C3
EMS	ESD	IEC/EN 61000-4-2	IEC/EN 61000-4-2	IEC/EN 61000-4-2	IEC/EN 61000-4-2
	RS	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3
	EFT	IEC/EN 61000-4-4	IEC/EN 61000-4-4	IEC/EN 61000-4-4	IEC/EN 61000-4-4
	Surge	IEC/EN 61000-4-5	IEC/EN 61000-4-5	IEC/EN 61000-4-5	IEC/EN 61000-4-5
Accessory	Maintenance bypass switch	Standard offer	Standard offer	Standard offer	Standard offer
	Input power cable	NA	NA	NA	NA
	Output power cable	NA	NA	NA	NA
	EBM cable	yes(in EBM)	yes(in EBM)	yes(in EBM)	yes(in EBM)
	USB cable	Yes	Yes	Yes	Yes
	RS232 cable	Optional	Optional	Optional	Optional
	Manual	Yes	Yes	Yes	Yes

Product specification

Model name		HE-COMBO-IoT 15K 3-3	HE-COMBO-IoT 15KS 3-3	HE-COMBO-IoT 20K 3-3	HE-COMBO-IoT 20KS 3-3
Power rating	VA/Watt	15000VA/15000W	15000VA/15000W	20000VA/20000W	20000VA/20000W
Efficiency	Double conversion mode	96%	96%	96%	96%
	ECO mode	98.8%	98.8%	99%	99%
Input performance	Voltage range	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly	160-300V (273-520) 100% load, 100-160V (173-273) derating to 50% load linearly
	Rated frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
	Frequency range	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)	40Hz-70Hz(45Hz-55Hz 54Hz-66Hz @ load>60% and 1 phase in 1 phase out)
	PF	>0.995	>0.995	>0.995	>0.995
	THDI	<3% linear load <5% non linear load	<3% linear load <5% non linear load	<3% linear load <5% non linear load	<3% linear load <5% non linear load
Input connection		L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass	L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass	L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass	L1/L2/L3/N/PE or L/N/PE hardware terminal connection Dual input for line and bypass
Output performance	Rated voltage	220/230/240V or 380/400/415V	220/230/240V or 380/400/415V	220/230/240V or 380/400/415V	220/230/240V or 380/400/415V
	Rated frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
	Maximum PF	1	1	1	1
	Voltage accuracy	±1%	±1%	±1%	±1%
	THDv	<1% linear load <5% non linear load	<1% linear load <5% non linear load	<1% linear load <5% non linear load	<1% linear load <5% non linear load
	Transfer time	0ms(2ms @ ECO+ ->Inverter)	0ms(2ms @ ECO+ ->Inverter)	0ms(2ms @ ECO+ ->Inverter)	0ms(2ms @ ECO+ ->Inverter)
	Crest Ratio	max 3:1	max 3:1	max 3:1	max 3:1
Overload	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	100%<load≤105% continuous. 105%< load ≤125% for 10 minutes 125<load≤150% for 1 minutes >150% for 500ms.	
Output connection	Wiring/socket	L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection	L1/L2/L3/N/PE or L/N/PE hardware terminal connection
Battery	Voltage	384VDC(384~480VDC adjustable)	384VDC(384~480VDC adjustable)	384VDC(384~480VDC adjustable)	384VDC(384~480VDC adjustable)
	Capacity(AH)	2*16*12V/7Ah, 32~40pcs adjustable	NA	2*16*12V/9Ah, 32~40pcs adjustable	NA
	Backup time Typical value by default battery capacity, PF=1	"2.0min 100% load 5.2min 50% load"	NA	"1.8min 100% load 4.7min 50% load"	NA
Maximum connect external battery module quantity		6	6	6	6

Product specification

Model name		HE-COMBO-IoT 15K 3-3	HE-COMBO-IoT 15KS 3-3	HE-COMBO-IoT 20K 3-3	HE-COMBO-IoT 20KS 3-3
Charger	Charging current	1.5A(0-13A adjustable)	1.5A(0-13A adjustable)	2A(0-13A adjustable)	2A(0-13A adjustable)
	Recharging time	3h to 90%	NA	3h to 90%	NA
Other working mode	CVCF	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)	Yes (derating to 60% load @ 1 phase in and 1 phase out mode)
	Parallel	Optional (up to 3)	Optional (up to 3)	Optional (up to 3)	Optional (up to 3)
HMI(human-machine interface)	Display	colour touch LCD (optional Dot matrix LCD)	colour touch LCD (optional Dot matrix LCD)	colour touch LCD (optional Dot matrix LCD)	colour touch LCD (optional Dot matrix LCD)
	Language	10 Languages	10 Languages	10 Languages	10 Languages
	USB	USB 2.0 with HID	USB 2.0 with HID	USB 2.0 with HID	USB 2.0 with HID
	RS232	Yes(DB9)	Yes(DB9)	Yes(DB9)	Yes(DB9)
	Dry in/out	1 programmable dry in; 1 programmable dry out	1 programmable dry in; 1 programmable dry out	1 programmable dry in; 1 programmable dry out	1 programmable dry in; 1 programmable dry out
	EPO	yes	yes	yes	yes
	Intelignet slot	yes(for long card)	yes(for long card)	yes(for long card)	yes(for long card)
	Network card	Optional, NMC long card	Optional, NMC long card	Optional, NMC long card	Optional, NMC long card
	Modbus card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card	Optional,CMC/Modbus Long Card
	Dry contactor card	Optional,AS400 Long Card	Optional,AS400 Long Card	Optional,AS400 Long Card	Optional,AS400 Long Card
	WLAN module	Optional,HDMI type	Optional,HDMI type	Optional,HDMI type	Optional,HDMI type
	Ethernet port for IOT	RJ45	RJ45	RJ45	RJ45
	Monitor software	Winpower	Winpower	Winpower	Winpower
Physical performance	Dimension(W*D*H)MM	350*650*890	350*650*890	350*650*890	350*650*890
	IP protection level	IP20	IP20	IP20	IP20
Environment	Operating temperature	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)	0-50°C(power derating to 50% @40-50°C)
	Relative Humidity	0-95%	0-95%	0-95%	0-95%
	Operating Altitude	0-4000m(the load derating 1 % every up 100m @1000-4000m)	0-4000m(the load derating 1 % every up 100m @1000-4000m)	0-4000m(the load derating 1 % every up 100m @1000-4000m)	0-4000m(the load derating 1 % every up 100m @1000-4000m)
	Acoustic Noise	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged	<55dB @ typical load with battery fully charged
Certification		CE,IEC/EN 62040	CE,IEC/EN 62040	CE,IEC/EN 62040	CE,IEC/EN 62040
EMI	Conduction/Radiation	C3	C3	C3	C3
EMS	ESD	IEC/EN 61000-4-2	IEC/EN 61000-4-2	IEC/EN 61000-4-2	IEC/EN 61000-4-2
	RS	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3	IEC/EN 61000-4-3
	EFT	IEC/EN 61000-4-4	IEC/EN 61000-4-4	IEC/EN 61000-4-4	IEC/EN 61000-4-4
	Surge	IEC/EN 61000-4-5	IEC/EN 61000-4-5	IEC/EN 61000-4-5	IEC/EN 61000-4-5
Accessory	Maintenance bypass switch	Standard offer	Standard offer	Standard offer	Standard offer
	Input power cable	NA	NA	NA	NA
	Output power cable	NA	NA	NA	NA
	EBM cable	yes(in EBM)	yes(in EBM)	yes(in EBM)	yes(in EBM)
	USB cable	Yes	Yes	Yes	Yes
	RS232 cable	Optional	Optional	Optional	Optional
	Manual	Yes	Yes	Yes	Yes



ສົມ. 1291 ເລັກ 1 - 2553
ສົມ. 1291 ເລັກ 2 - 2553
ສົມ. 1291 ເລັກ 3 - 2555



SYNDOME
ພູມິຈຳນະຍະສຳຮອງໄຟຟ້າ

Syndome Electronics Industry Co.,Ltd.
66 ວະໂປນະຍາຍາກ 59 ຫຸ້ນ 3 ພະບາງສາຍ ແຫ່ງຊຸດຊຸດ ສຸດຊຸດ 10140
Tel: (662)8726900 (ອັງກິດ) Fax: (662)8726909
URL: <http://www.syndome.com> Email: public@syndome.com

REF:601222
MKS-33-Rev0
ed.30/04/2022