

HERCULES COMBO IoT Series

10-20 kVA

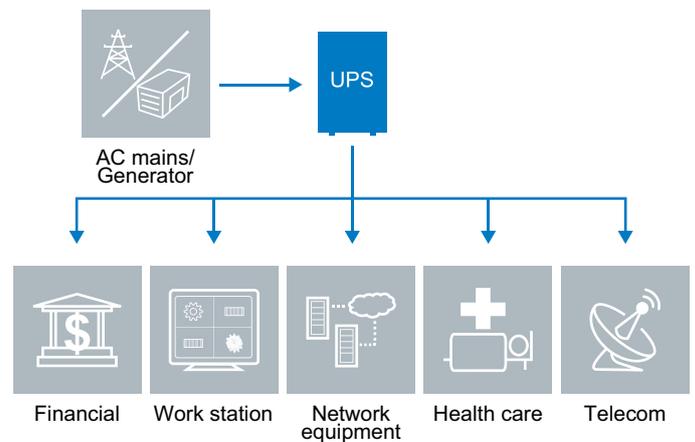


- Built-in OVCD protection, fan lock detection, over temperature detection, overload warning to enhance the product reliability
- Automatic detect additional EBM quantity will simplify EBM installation for IT users
- Low audible noise at typical load
- Dot matrix LCD support up to 10 languages for easy 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

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

Typical application



New full range double conversion UPS

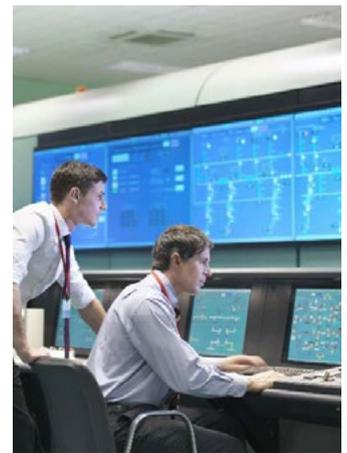
High density, true double conversion on-line power protection for IT (Information technology) and OT (operation technology) applications. Capable of supporting loads from 1 to 20kVA in a compact tower form.

These latest range of UPS comes with future-proof connectivity design having the capability to connect to cloud seamlessly to allow the monitoring of the UPS online through any internet connected device. To ensure users information is safe and protected, these connectivity is compliant with IEC standard cybersecurity.

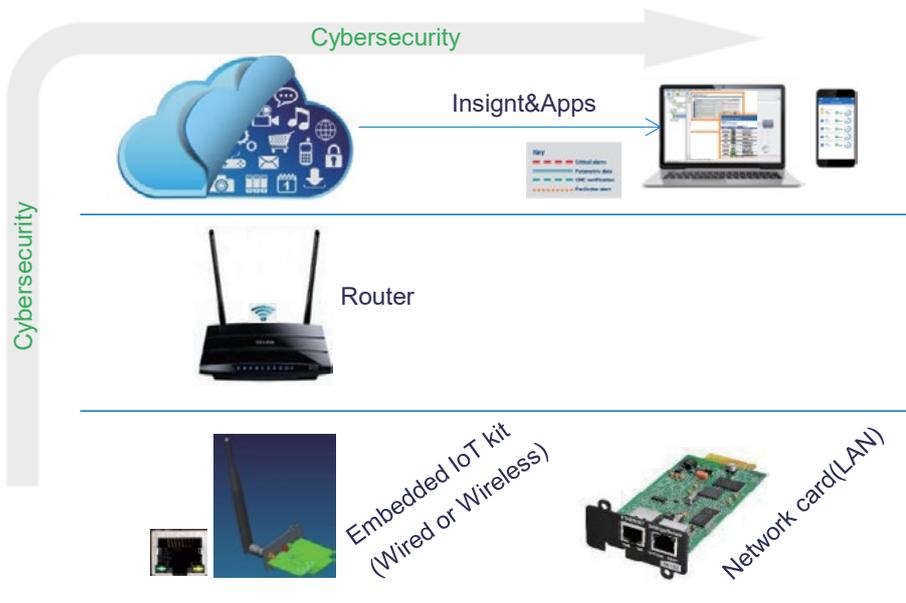


Network connected and data to cloud

- Easy to setup the Safe connection to Cloud
- Connect to Cloud through MQTT protocol (the most widely used IoT protocol)
- Real time health monitoring on the equipment to enable business continuity and failure prevention
- Remote monitoring, scheduled maintenance and UPS firmware upgrade *
- Improve the data visibility to the service people and end user
- Reduce the responsive time on product failure as Cloud push the exact information to end user and service people at the same time
- Create value added service opportunities based on digitalization transformation



* Will be launched soon



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 | 160-300V (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 | >0.95 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) |
| 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 |
| | 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) |
| | 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 adjustalbe) | 1.5A(0-13A 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) |
| HMI(human-machine interface) | Display | colour touch LCD (optional Dot matrix LCD) |
| | Language | 10 Languages | 10 Languages | 10 Languages | 10 Languages |
| | USB | 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 | 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) |
| | 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
ພື້ນທີ່ການຮ່ວມມືສຳຮອງໄຟຟ້າ

Syndome Electronics Industry Co.,Ltd.
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