

The « Vaccine Safety Solutions

Your Haier Biomedical Partner

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A background image of three young girls of African descent smiling and posing together outdoors. The girl on the left is wearing a light blue t-shirt with a graphic. The girl in the middle is wearing a patterned top. The girl in the foreground is wearing a grey top. The overall tone is positive and community-oriented.

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A platform for sharing, an ecosystem of trust.

Haier Biomedical's Vaccine Safety Solutions

- ✓ Cold Room
- ✓ Walk-In Cold Room
- ✓ Solar Direct Drive Vaccine Refrigerator
- ✓ Solar Direct Drive Combined Refrigerator/Freezer
- ✓ Solar Direct Drive Water-pack Freezer
- ✓ Icepack Freezer
- ✓ Ice-Lined Refrigerator/Freezer
- ✓ Combined Refrigerator and Freezer
- ✓ Humidity Control Vaccine Refrigerator
- ✓ Remote Temperature Monitoring Device
- ✓ Optional Acessories

Solar Direct Drive Cold Room

SDD cold room uses solar direct drive cooling technology, combined with ice lined technology, maintains the temperature in the cold room between 2-8 degrees throughout the day; application is used in national or regional vaccine centers, hospitals, and biopharmaceutical industries suitable for immunization projects; used for storing large quantities of temperature-sensitive products, such as vaccines and medications.



Solar Direct Dirve

SDD cold room uses solar direct drive cooling technology

Low Operating Cost

Low operation cost, annual energy saving is about 8000kwh (10 CMB)

Long Holdover Capacity

Long holdover during power off (Tested in QingDao), more than 22 days (10 CBM, ambient temperature 20-40°C)

Remotely Monitored and Controlled

Temperature record and alarm system, door ajar alarm and power failure alarm; monitored & controlled by PC/APP/Web

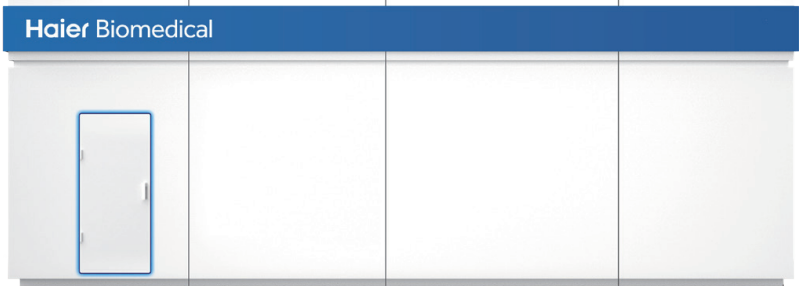
Specifications

Model	Solar Direct Drive Cold Room
Cold room Sizes	>10m ³
Temperature Range (°C)	5-43
Refrigerant	R1234YF
Panel Insulation Material	Polyurethane High Density
Panel Thickness Options (mm)	200
Panel Jointing System	Tongue and Groove, Cam Lock
Wall & Ceiling Panel Finish	1mm Aluminum Sheet
Floor Panel Finish	Anti-slip Aluminum Sheet
Shelving System	Adjustable Shelves
Shelving Material	Steel and Aluminum
Internal Temperature Range (°C)	2-8
Holdover Time at 43°C	More than 7 Days (10 CMB)
Holdover Time at 32°C	More than 15 Days (10 CMB)
Min. Solar Radiation (kWh/m2/day)	3.5

*Haier Biomedical reserves the right to change products and specifications without prior notice.

Walk-In Cold Room

The complete unit is also designed for installations in housed areas such as warehouses that need to meet specific temperature standards. Previously Haier have already successfully installed these units in India, Guinea, Syria, Pakistan, Burundi, Zimbabwe and other regions across the world.



Temperature

- Temperature recorder
- Forced air-cooling system

CFC-free

- CFC-free high-density foam insulation

Walk-In Cold Store Unit

- The cold room is suitable for a variety of applications: It can be used to freeze or refrigerate samples for healthcare, research, agriculture and biotechnology purposes.
- Walk-In Cold Room (WIC): Interior temperature can be controlled within a range of 2°C to 8°C.
- Walk-In Freezer (WIF): Temperature is set at -20°C.

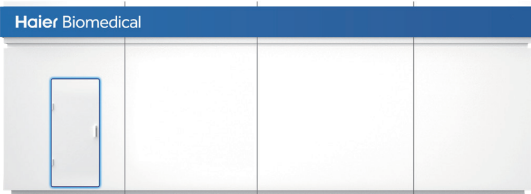
Alarm System

- Audible and visual alarm

Automatic Defrosting

- Dual unit rotating operation

Specifications



Model	Monobloc						Split					Monobloc
	WIC (10 cbm)	WIF (20 cbm)	WIC (30 cbm)	WIC (40 cbm)	Combi. 40 cbm WIC/WIF		WIF (20 cbm)	WIC (30 cbm)	WIC (40 cbm)	Combi. 40 cbm WIC/WIF		HWIC-40- M-AC (290)
					WIC (10 cbm)	WIC (10 cbm)				WIC (25 cbm)	WIF (15 cbm)	
Capacity (m³)	10	20	30	40	25	15	20	30	40	25	15	40
WHO PQS Code	E001/003											
Refrigerant	R448A											R290
Defrost Mod	Hot gas defrost						Electrical heating					Hot gas defrost
Internal Temperature Range (°C)	2~8	-20	2~8	2~8	2~8	-20	-20	2~8	2~8	2~8	-20	2~8
Power Supply (V/ph-Hz)	220/1N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	380/3N~/50	220/1N~/50
Power (W)/Unit	894	1750	1590	1590	1590	1750	1750	1590	1860	1590	1750	2510 (max)
Refrigeration Output (W) Unit	1425	2580	3700	3700	3700	2580	2580	3700	4600	3700	2580	3367
Condensation Temperature (°C)	43											
Density (Kg/Cbm)	40+/- 2											
U Value (W/m²K)	0.17											
Insulation Thickness (mm)	100	120	100	100	120		120	100	100	120		120

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Solar Direct Drive Vaccine Refrigerator



HTC-110(EMS)/HTC-112



HTC-120(EMS)



HTC-240(EMS)

Long-Lasting Temperature Control (Power-Off) Design

- Solar-powered cold storage design, max temperature retention ≥ 120h
- Large-capacity water tank for cold storage + heat pipe cooling control
- Stable operation at +5℃ ~ +43℃ ambient temp, meeting Grade A anti-freezing standards
- Double-door sealing strip design, double-layer cold insulation for enhanced reliability
- Upright models: optional humidity control function

Integrated Monitoring System (EMS)

- 4.3-inch color screen supporting one-click language switching among 5 languages: Chinese, English, French, Russian, and Spanish, with concise and easy-to-understand icon display;
- Supports LEVEL 1, LEVEL 2, and remote upgrade to LEVEL 3 functions (LEVEL 2 is standard at delivery);
- 1-year data storage + multi-network upload, enabling remote/offline management and supporting power-off battery life for approximately 10 days;

People-Oriented Design

- Multiple upright & chest configurations
- Equipped with shelves & vaccine baskets for easy access
- Button control for simple operation & reduced misoperation
- Upright models fitted with swivel casters for easy mobility
- Upright models with added test ports
- Integrated door safety lock & thermostat password lock function

Energy-Saving & Eco-Friendly

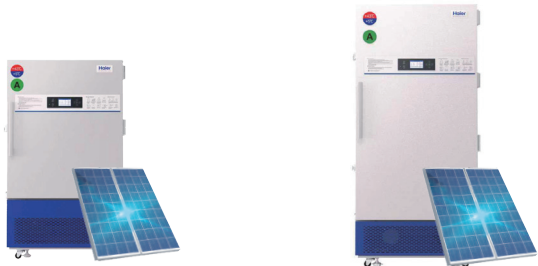
- Uses HC green refrigerant
- Solar clean energy direct-drive, battery-free
- Eco-friendly insulation materials (CFC & HFC free)

Specifications



Model		HTC-110 (EMS)	HTC-112
Technical Data	Vaccine Storage Capacity (L/Cu.Ft)	59/2.08	75/2.65
	Cabinet Type	Chest	Chest
	Ambient Temperature (°C)	5~43	5~43
	Cooling Type	Direct Cooling	Direct Cooling
	Defrost Mode	/	/
	Refrigerant	HC	HC
Performance	Sound Level (dB (A))	< 38	< 38
	Temperature Range (°C)	2-8	2-8
	Vaccine Freeze Protection Classification	Grade A	Grade A
Control	Controller	Microprocessor	Microprocessor
	Display	Solar LCD Temperature Display/ 4.3-inch Color LCD Screen (EMS)	Solar LCD Temperature Display/ 4.3-inch Color LCD Screen (EMS)
Electrical Data	Power supply(VDC)	24	24
	Maximal Current(A)	5	5
	Energy Consumption: stable running (KWh/24h)	0.58	0.59
	Energy Consumption: cool down test (KWh/24h)	0.62	0.62
	Autonomy Time at 43°C	96hrs24mins	92hrs46mins
	Autonomy Time at 32°C	/	145hrs29mins
	At a Solar Radiation Reference Period of (kwh/m²/day)	3.5	3.5
Construction	Gross Volume (L/Cu.Ft)		110/3.88
	Net/Gross Weight (approx)	kg	75/105
		lbs	165/231.5
	Interior Dimensions (W*D*H)	mm	545*345*555
		in	21.5*13.6*21.9
	Exterior Dimensions (W*D*H)	mm	1128*654*875
		in	44.4*25.7*34.4
	Packing Dimensions (W*D*H)	mm	1190*770*1080
		in	46.9*30.3*42.5
Alarm	Container Load (20'/40'/40'H)		26/56/56
	High/Low Temperature		Y
	Sensor Error		Y
Accessories	Baskets		4
	Shelves		/
Others	CE, WHO/PQS		Y

Specifications



Model			HTC-120 (EMS)	HTC-240 (EMS)
Technical Data	Vaccine Storage Capacity (L/Cu.Ft)		100/3.5	200/7.1
	Cabinet Type		Upright	Upright
	Ambient Temperature (°C)		5~43	5~43
	Cooling Type		Direct Cooling	Direct Cooling
	Defrost Mode		/	/
	Refrigerant		HC	HC
	Sound Level (dB (A))		≤43	≤43
Performance	Temperature Range (°C)		2~8	2~8
	Vaccine Freeze Protection Classification		Grade A	Grade A
Control	Controller		Microprocessor	Microprocessor
	Display		Solar LCD Temperature Display/4.3-inch Color LCD Screen (EMS)	
Electrical Data	Power supply (VDC)		24	24
	Maximal Current (A)		5	5
	Energy Consumption: stable running (KWh/24h)		0.44	0.35
	Energy Consumption: cool down test (KWh/24h)		0.48	0.54
	Autonomy Time at 43°C		112Hrs24mins	95Hrs23mins
	Autonomy Time at 32°C		183hrs20mins	151hrs10mins
	At a Solar Radiation Reference Period of (kwh/m²/day)		3.5	3.5
Construction	Gross Volume (L/Cu.Ft)		120/4.2	240/8.5
	Net/Gross Weight (approx)	kg	130/160	150/185
		lbs	286/352	330/407.9
	Interior Dimensions (W*D*H)	mm	530*500*530	530*500*960
		in	20.9*19.7*20.9	20.9*19.7*37.8
	Exterior Dimensions (W*D*H)	mm	865*825*1422	865*825*1815
		in	34*32*56	34*32*71
	Packing Dimensions (W*D*H)	mm	980*920*1585	980*920*1980
		in	38.6*36.2*62.4	38.6*36.2*78
Alarm	Container Load (20'/40'/40'H)		12/24/24	12/24/24
	High/Low Temperature		Y	Y
	Sensor Error		Y	Y
Accessories	Baskets		/	/
	Shelves		3	4
Others	CE, WHO/PQS		Y	Y

Solar Direct Drive Combined Refrigerator/Freezer



- Modular Refrigeration-Freezer Dual-Zone Design

 - Modular structure, compatible with both vaccine storage and ice pack freezing functions
 - Multiple capacity options available for both refrigeration and freezer compartments
 - Stable operation at ambient temperatures ranging from +5°C to +43°C, meeting Class A anti-freezing requirements
 - Adopts double-layer door gasket design, with dual-layer thermal insulation for improved reliability
 - Humidity control function is available as an optional feature for upright cabinets
 - Solar-powered cold storage design, max temperature retention ≥ 120h
- Integrated Monitoring System (EMS)

 - 4.3-inch color screen supporting one-click language switching among 5 languages: Chinese, English, French, Russian, and Spanish, with concise and easy-to-understand icon display;
 - Supports LEVEL 1, LEVEL 2, and remote upgrade to LEVEL 3 functions (LEVEL 2 is standard at delivery);
 - 1-year data storage + multi-network upload, enabling remote/offline management and supporting power-off battery life for approximately 10 days;
- People-Oriented Design

 - Multiple upright & chest configurations
 - Equipped with shelves & vaccine baskets for easy access
 - Button control for simple operation & reduced misoperation
 - Upright models fitted with swivel casters for easy mobility
 - Upright models with added test ports
 - Integrated door safety lock & thermostat password lock function
- Energy-Saving & Eco-Friendly

 - Uses HC green refrigerant
 - Solar clean energy direct-drive, battery-free
 - Eco-friendly insulation materials (CFC & HFC free)

Specifications



Model			HTCD-90 (EMS)
Technical Data	Vaccine Storage Capacity (L/Cu.Ft)		37.5/1.3
	Cabinet Type		Chest
	Ambient Temperature (°C)		5~43
	Cooling Type		Direct Cooling
	Defrost Mode		Manual
	Refrigerant		HC
	Sound Level (dB (A))		< 39
Performance	Temperature Range (°C)		Freezer ≤-10 Refrigerator: 2~8
	Vaccine Freeze Protection Classification		Grade A
Control	Controller		Microprocessor
	Display		Solar LCD Temperature Display/ 4.3-inch Color LCD Screen (EMS)
Electrical Data	Power supply(VDC)		24
	Maximal Current(A)		7
	Energy Consumption: stable running (KWh/24h)		0.858
	Energy Consumption: cool down test (KWh/24h)		0.81
	Autonomy Time at 43°C		114hrs 56mins
	Autonomy Time at 32°C		-
	At a Solar Radiation Reference Period of (kwh/m²/day)		3.5
Construction	Gross Volume (L/Cu.Ft)		Refrigerator: 58/2.1 Freezer:32/1.1
	Net/Gross Weight (approx)	kg	83/113
		lbs	183.0/250.0
	Interior Dimensions (W*D*H)	mm	Cooling Chamber: 270*345*555 Freezer Chamber: 170*370*555
		in	Cooling Chamber: 10.6*13.6*21.9 Freezer Chamber: 6.7*14.6*21.9
	Exterior Dimensions (W*D*H)	mm	1128*654*875
		in	44.4*25.7*34.3
	Packing Dimensions (W*D*H)	mm	1190*770*1080
		in	46.9*30.3*42.5
	Container Load (20'/40'/40'H)		26/56/56
	Waterpack Storage Capacity(kg)		12.52
	Waterpack Freezing Capacity(kg/24h)		2.43
Alarm	High/Low Temperature		Y
	Sensor Error		Y
Accessories	Baskets		2 (Refrigerator Parts) & 2 Ice Holder (Freezer Parts)
	Shelves		/
Others	CE, WHO/PQS		Y



Specifications

Model			HTCD-160B (EMS)	HTCD-220 (EMS)
Technical Data	Vaccine Storage Capacity (L/Cu.Ft)		100/3.5	146
	Cabinet Type		Upright	Upright
	Ambient Temperature (°C)		5~43	5~43
	Cooling Type		Direct cooling	Direct Cooling
	Defrost Mode		Manual	Manual
	Refrigerant		HC	R600a
	Sound Level (dB(A))		< 39	< 39
Performance	Temperature Range (°C)		Freezer ≤-10 Refrigerator: 2~8	Freezer ≤-10 Refrigerator: 2~8
Control	Vaccine Freeze Protection Classification		Grade A	Grade A
	Controller		Microprocessor	Microprocessor
Electrical Data	Display		Solar LCD Temperature Display/ 4.3-inch Color LCD Screen (EMS)	
	Power supply (VDC)		24	24
	Maximal Current (A)		6	6
	Energy Consumption: stable running (KWh/24h)		0.99	0.9
	Energy Consumption: cool down test (KWh/24h)		1.1	1.1
	Autonomy Time at 43°C		139hrs27mins	128.3
	Autonomy Time at 32°C		/	/
Construction	At a Solar Radiation Reference Period of (kwh/m²/day)		3.5	3.5
	Gross Volume (L/Cu.Ft)		Refrigerator: 120/4.2 Freezer:40/1.4	
	Net/Gross Weight (approx)	kg	150/186	195/234
		lbs	330/410	428/515
	Interior Dimensions (W*D*H)	mm	Cooling Chamber:545*500*530 Freezer Chamber:560*520*150	Refrigerator: 545*500*650 Freezer: 560*520*150
		in	Cooling Chamber: 21.5*19.7*20.9 Freezer Chamber: 22.0*20.5*5.9	Cooling chamber: 21.1* 19.7*26.3 Freezer chamber: 22.0*20.5*5.9
	Exterior Dimensions (W*D*H)	mm	865*825*1695	920*915*1860
		in	34.1*32.6*66.9	34.1*32.6*73.2
	Packing Dimensions (W*D*H)	mm	985*920*1860	970*950*2015
		in	38.8*36.2*73.2	38.2*37.4*79.3
	Waterpack Storage Capacity(kg)		22.4	22.4
	Waterpack Freezing Capacity(kg/24h)		2	2.4
	Container Load (20'/40'/40'H)		12/24/24	12/24/24
Alarm	High/Low Temperature		Y	Y
	Sensor Error		Y	Y
Accessories	Baskets		/	/
	Shelves		2	3
Others	CE, WHO/PQS		Y	Y

Solar Direct Drive Water-Pack Freezer



HTD-40

- High Performance

 - World Health Organization Certified (PQScertification)
 - Equipped with ice pack pressing device, enabling the ice-pack plastered to the liner,speed up the water pack freezing
 - The thickness of insulation layer is 140mm to better store the freezed ice-packs
 - Broad working ambient temperature range of below 43°C, outstanding performance
 - Internal and external double door design, superior insulation performance
- Temperature Control

 - Electronic temperature controller, digital temperature display, the display precision is 0.1°C, during the day the temperature can reach -10°C
 - Solar energy temperature display system, driven by natural light
 - High performance key components (compressor, fan, controller, etc.), safe and reliable
- Ergonomic Design

 - Intelligent control
 - The height of the temperature display screen is moderate, and the inner temperature can be checked at any time
 - Safety door lock
 - Low DC voltage ensures personal safety
 - Plug-and-play type quick plug, positive and negative pole error-proof
 - Built-in handgrips on both sides of the box body facilitate overall movement
 - Compressor indicator light, indicating the system work status
 - Two-chamber design: Ice pack freezer and ice pack storage chamber
- Environmental Protection

 - Environmentally friendly hydrocarbon refrigerant R600a and foam material LBA
 - The shell is coated with cold rolled steel plate, and the inner liner is made of 1.0mm alumina, which is easy to recycle.
 - Ultra low GWP value
 - Without any battery

Specifications



Model		HTD-40
Technical Data	Vaccine Storage Capacity (L/Cu.Ft)	48/1.7
	Cabinet Type	Chest
	Ambient Temperature (°C)	≤43
	Cooling Type	Direct Cooling
	Defrost Mode	Manual
	Refrigerant	HC
	Sound Level (dB (A))	<30
Performance	Temperature Range (°C)	< -10
Control	Controller	Microprocessor
	Display	Solar LCD Temperature Display
Electrical Data	Power supply (VDC)	24
	Maximal Current (A)	5
	Energy Consumption: stable running (KWh/24h)	0.46
	Energy Consumption: cool down test (KWh/24h)	0.50
	Autonomy Time at 43°C	120hrs
	Autonomy Time at 32°C	/
	At a Solar Radiation Reference Period of (kwh/m²/day)	3.5
Construction	Vaccine Storage Capacity (L/Cu.Ft)	/
	Net/Gross Weight (approx)	kg65/85
		lbs143.0/187.4
	Interior Dimensions (W*D*H)	mmCooling chamber: 135*370*310 Freezer chamber: 265*370*555
		inCooling chamber: 3.3*14.6*12.2 Freezer chamber: 10.4*14.6*21.9
	Exterior Dimensions (W*D*H)	mm788*654*875
		in31.0*25.7*34.3
	Packing Dimensions (W*D*H)	mm850*770*1080
		in33.4*30.3*42.5
Alarm	Container Load (20'/40'/40'H)	36/78/78
	High/Low Temperature	N/A
	Sensor Error	Y
Accessories	Baskets	2
	Shelves	/
Others	CE, WHO/PQS	Y

Icepack Freezer

Haier Biomedical's Icepack Freezer is designed to store e.g. vaccines, freeze icepacks, pharmaceuticals between -15°C and -25°C. Application is used within institutes epidemic prevention, clinics, hospitals, research institutes as key examples.



Refrigeration System

- High quality compressor
- CFC-free high-density foam insulation
- Optimized refrigeration system design

Ergonomic Design

- Safety lock to safeguard against unauthorized access
- Internal configuration suitable for various sizes of storage baskets
- Drainage port for ease of cabinet cleaning
- LCD temperature display

Temperature Control

- Electronic temperature controller with digital display
- Internal temperature range is -25°C to -15°C

Alarms

- Power failure alarm, high temperature alarm, sensor error alarm
- Two alarm modes: sound alarm and light alarm

Specifications



	Model	HBD-86	HBD-130	HBD-265
Technical Data	Cabinet Type	Chest	Chest	Chest
	Ambient Temperature	0~43	<43	0~43
	Cooling Type	Direct Cooling	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	/	Manual
	Refrigerant	HC	HC	HC
	Sound Level (dB (A))	40.6	40.6	39.3
Performance	Temperature Range (°C)	-25~-15	-15~-25	-25~-15
Control	Controller	Microprocessor	Microprocessor	Microprocessor
	Display	LCD	LCD	LCD
Electrical Data	Power Supply (V/Hz)	220~240V 50/60Hz	220V~240V(50/60Hz)	220~240V 50/60Hz
	Power (W)	120	190	210
	Electrical Current (A)	1.1	1.4	1.6
	Power Consumption: Cool Down Test (kWh/24h)	0.98	0.98	1.43
	Power Consumption: Stable Running (kWh/24h)	0.95	0.95	1.41
	Holdover Time at 43°C	More than 7hrs (up to -5°C)	More Than 6hrs (up to -5°C)	More than 11hrs 25min (up to -5°C)
Dimensions	Vaccine Storage Capacity (L/Cu.Ft)	61/2.2	118/4.2	211/7.5
	Gross Volume (L/Cu.Ft)	86/3	130/4.5	265/9.4
	Net/Gross Weight (approx)	kg	65/90	135/160
		lbs	143/198	297/352
	Interior Dimensions (W*D*H)	mm	500*366*560	1359*366*560
		in	19.7*14.4*22	53.5*14.4*22
	Exterior Dimensions (W*D*H)	mm	788*717*872	1647*717*940
		in	31*28.2*34.3	64.8*28.2*37
	Packing Dimensions (W*D*H)	mm	850*770*1080	1720*770*1080
		in	33.5*30*42.5	67.7*30*42.5
Accessories	Container Load (20'/40'/40'H)	36/78/78	28/56/56	18/38/38
	Waterpack Storage Capacity(kg)	61	/	211
	Waterpack Freezing Capacity(kg/24h)	17.6	15.2	32.4
	Foot/Castor	N/A	/	N/A
	Sensor Error	Y	Y	Y
	Baskets	3	3	9
Others	CE, WHO/PQS	Y	N	Y

Ice-Lined Refrigerator/Freezer



HBC-79/80/150/260

- Security Guarantee

 - Compliant with WHO PQS (WHO/PQS/E003/RF03.7, WHO/PQS/E003/RF03-VP.5) and Vaccine freeze protection classification: Grade A, ensuring that the vaccines inside the refrigerator are within the qualified range;
 - Compliant with CE standard (EC 60335-1-2020, IEC 60335-2-24-2020, EN 61000-6-1:2016, EN61000-6-3:2011), to meet electrical safety design requirements.
- Superior Reliability

 - The whole machine has passed a 10-year accelerated aging test.The outer shell is made of powder coated steel plate, and the inner lining is made of 1.0mm corrosion-resistant alumina.
- Efficient Insulation Design

 - The 140mm insulation and double sealing strip door design have excellent insulation performance. The temperature inside the cabin will not be lower than 0℃ to prevent vaccine freezing.
- Control System

 - Digital electronic temperature controller with an accuracy of 0.1℃ and temperature control range of 2-8℃.
- Ergonomic Design

 - EMS system can achieve wireless remote monitoring of temperature,compressor operation, and door opening and closing status; Equipped with a 4.3-inch color LCD screen; Adjustable shelf height,,convenient for accessing to vaccines; Equipped with status indicator lights, convenient for operator to confirm the operation status in 3 meters.

Specifications



Model		HBC-79 (EMS)	HBC-80(50/60Hz)		HBC-150(50/60Hz)		HBC-260 (EMS)	
Technical Data	Cabinet Type	Chest	Chest		Chest		Chest	
	Ambient Temperature (°C)	5~43	5~43		5~43		5~43	
	Cooling Type	Direct Cooling	Direct Cooling		Direct Cooling		Direct Cooling	
	Defrost Mode	Manual	/		/		/	
	Refrigerant	HC	HC		HC		HC	
	Sound Level (dB (A))	< 40	<40		<40		<40	
Performance	Temperature Range (°C)	2~8	2~8		2~8		2~8	
	Freezer Protection Level	Grade A	A		A		A	
Control	Controller	Microprocessor	Microprocessor		Microprocessor		Microprocessor	
	Display	Solar LCD Temperature Display/4.3-inch Color LCD Screen (EMS)	Solar LCD Temperature Display		Solar LCD Temperature Display		Solar LCD Temperature Display/4.3-inch Color LCD Screen (EMS)	
Electrical Data	Power Supply(V/Hz)	220V~240V/50Hz/60Hz	220~240/50	220V~240V (50/60Hz)	220~240/50	220V~240V (50/60Hz)	220V~240V (50/60Hz)	
	Power(W)	140	110	140	120	150	200	
	Electrical Current(A)	1.3	1	1.3	1	1.5	1.5	
	Power Consumption: stable running(KWh/24h)	0.55	0.57	0.55	0.54	0.72	1.47	
	Power Consumption: cool down test(kWh/24h)	0.65	0.63	0.65	0.62	0.76	1.62	
	Holdover Time at 43°C	57hrs34mins	59hrs51mins	57hrs34mins	60hrs50mins	57hrs34mins	62hrs	
	Holdover Time at 32°C	/	98hrs26mins	/	96hrs23mins	/	117hrs24mins	
	Vaccine Storage Capacity (L/Cu.Ft)	59/2.2	61/2.2		122/4.3		211/7.5	
	Gross Volume (L/Cu.Ft)	79/2.8	80/2.8		150/5.3		260/9.2	
Dimensions	Net/Gross Weight (approx)	kg	85/110	85/110	105/140		170/212	
		lbs	187.6/242.7	187.6/242.7	231.7/308.9		374.8/467.4	
	Interior Dimensions (W*D*H)	mm	500*366*560	500*366*560		840*366*560		1359*366*560
		in	19.7*14.4*22	19.7*14.4*22		33.1*14.4*22		53.5*14.4*22
	Exterior Dimensions (W*D*H)	mm	788*654*875	788*654*875		1128*654*875		1650*654*940
		in	31*25.7*34.4	31*25.7*34.4		44.4*25.7*34.4		64.8*25.7*37
	Packing Dimensions (W*D*H)	mm	850*770*1080	850*770*1080		1190*770*1080		1720*770*1080
	in	33.5*30*42.5	33.5*30*42.5		47*30*42.5		67.7*30*42.5	
	Container load (20'/40'/40'H)	36/78/78	36/78/78		26/56/56		18/38/38	
Functions	High/Low Temperature (Y/N)	Y	Y		Y		Y	
	Power Outage	Y	Y		Y		Y	
	Door Opening Alarm	Y	Y		Y		Y	
	Compressor Failure	Y	N/A		N/A		N/A	
Accessories	Sensor Error	Y	Y		Y		Y	
	Foot/Castor	N	N/A		N/A		Y	
Others	CE, WHO/PQS	Y	Y		Y		Y	



HBC-120 (EMS)

HBC-240 (EMS)

- Security Guarantee

 - Compliant with WHO PQS (WHO/PQS/E003/RF03.7, WHO/PQS/E003/RF03-VP.5) and Vaccine freeze protection classification: Grade A, ensuring that the vaccines inside the refrigerator are within the qualified range;
 - Compliant with CE standard (EC 60335-1-2020, IEC 60335-2-24-2020, EN 61000-6-1:2016, EN61000-6-3:2011), to meet electrical safety design requirements.
- Superior Reliability

 - The whole machine has passed a 10-year accelerated aging test. The outer shell is made of powder coated steel plate, and the inner lining is made of 1.0mm corrosion-resistant alumina.
- Efficient Insulation Design

 - The 140mm insulation and double sealing strip door design have excellent insulation performance. The temperature inside the cabin will not be lower than 0℃ to prevent vaccine freezing.
- Control System

 - Digital electronic temperature controller with an accuracy of 0.1℃ and temperature control range of 2-8℃. Optional humidity control system can be used to achieve no condensation inside the cabin and prevent the vaccine box from getting wet.
- Ergonomic Design

 - EMS system can achieve wireless remote monitoring of temperature, compressor operation, and door opening and closing status; Equipped with a 4.3-inch color LCD screen; Adjustable shelf height, convenient for accessing to vaccines; Equipped with status indicator lights, convenient for operator to confirm the operation status in 3 meters.

Specifications



	Model		HBC-120 (EMS)	HBC-240(EMS)
Technical Data	Cabinet Type		Upright	Upright
	Ambient Temperature (°C)		5-43	5-43
	Cooling Type		Direct Cooling	Direct Cooling
	Refrigerant		HC	HC
	Sound Level (dB (A))		< 40	< 40
Performance	Temperature Range (°C)		2-8	2-8
	Vaccine Freeze Protection Classification		Grade A	Grade A
Control	Controller		Microprocessor	Microprocessor
	Display		4.3-inch color LCD screen/4.3-inch Color LCD Screen	
Electrical Data	Power Supply (V/Hz)		220V-240V (50/60Hz)	220V-240V (50/60Hz)
	Power (W)		145	145
	Electrical Current (A)		1	1
	Power Consumption: stable running (KWh/24h)		0.4	0.44
	Power Consumption: cool down test (KWh/24h)		0.35	0.4
	Holdover Time at 43°C		128hrs48min	87h14min
	Holdover Time at 32°C		185H	165H
	Vaccine Storage Capacity(L/Cu.Ft)		100/3.6	200/7.2
	Gross Volume (L/Cu.Ft)		120/4.3	240/8.5
Dimensions	Net/Gross Weight (approx)	kg	128/160	152/186
		lbs	281.6/352	334.4/409.2
	Interior Dimensions (W*D*H)	mm	545*500*530	530*500*960
		in	21.5*19.7*20.9	20.87*19.69*37.8
	Exterior Dimensions (W*D*H)	mm	920*915*1740	890*829*1820
		in	36.2*36*68.5	35.04*32.64*71.65
	Packing Dimensions (W*D*H)	mm	970*950*1910	980*920*1980
		in	38.2*37.4*75.2	38.6*36.2*78
Functions	Container load (20'/40'/40'H)		12/24/24	12/24/24
	High/Low Temperature (Y/N)		Y	Y
	Power outage		Y	Y
	Door opening alarm		Y	Y
	Compressor failure		Y	Y
Accessories	Sensor Error (Y/N)		Y	Y
	Foot (Y/N)		N	4
Others	CE, WHO/PQS		Y	Y

Combined Refrigerator and Freezer



HBCD-90/90(EMS)

- Dual Zone and Dual System Design for Refrigeration and Freezing

Designed with a dual zone of refrigeration and freezing, with refrigerated storage for vaccines and frozen icepack.
- Security Guarantee

Compliant with WHO PQS (WHO/PQS/E003/RF03.7, WHO/PQS/E003/RF03-VP.5) and Vaccine freeze protection classification: Grade A, ensuring that the vaccines inside the refrigerator are within the qualified range;

Compliant with CE standard (IEC 60335-1-2020, IEC 60335-2-24-2020, EN 61000-6-1:2016, EN61000-6-3:2011), to meet electrical safety design requirements.
- Superior Reliability

The whole machine has passed a 10-year accelerated aging test. The outer shell is made of powder coated steel plate, and the inner lining is made of 1.0mm corrosion-resistant alumina.
- Efficient Insulation Design

The 140mm insulation and double sealing strip door design have excellent insulation performance. The temperature inside the cabin will not be lower than 0℃ to prevent vaccine freezing.
- Control System

The refrigeration and freezing areas adopt two independent control systems, Digital electronic temperature controller with an accuracy of 0.1C and temperature control range of 2-8C.
- Ergonomic Design

EMS system can achieve wireless remote monitoring of temperature,compressor operation, and door opening and closing status; Equipped with a 4.3-inch color LCD screen; Equipped with status indicator lights, convenient for operator to confirm the operation status in 3 meters.

Specifications



Model		HBCD-90	HBCD-90 (EMS)
Technical Data	Cabinet Type	Chest	Chest
	Ambient Temperature	5~43	5~43
	Cooling Type	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	Manual
	Refrigerant	HC	HC
	Sound Level (dB (A))	< 40	≤40
Performance	Temperature Range (°C)	Freezer ≤-10 Refrigerator: 2~8	Freezer: ≤-10 Refrigerator: 2~8
	Vaccine Freeze Protection Classification	Grade A	Grade A
Control	Controller	Microprocessor	Microprocessor
	Display	Solar LCD Temperature Display	4.3-inch Color LCD Screen
Electrical Data	Power Supply (V/Hz)	220V~240V/50Hz	220V~240V/50Hz
	Power (W)	190	210
	Electrical Current (A)	1.5	1.5
	Power Consumption: stable running (kWh/24h)	0.7	0.7
	Power Consumption: cool down test (kWh/24h)	0.66	0.66
	Holdover Time at 43°C	63hrs48mins	63hrs48mins
	Holdover Time at 32°C	132hrs21mins	/
Dimensions	Vaccine Storage Capacity (L/Cu.Ft)		30/1.1
	Gross Volume (L/Cu.Ft)		Refrigerator:42/1.5 Freezer:32/1.1
	Net/Gross Weight (approx)	kg	105/135
		lbs	231/298
	Interior Dimensions (W*D*H)	mm	Refrigerator Chamber:279*273*556 Freezer Chamber:166*366*580
		in	Refrigerator Chamber:11*10.8*21.9 Freezer Chamber:6.5*14.4*22.8
	Exterior Dimensions (W*D*H)	mm	1128*654*875
		in	44.4*25.7*34.4
	Packing Dimensions (W*D*H)	mm	1190*770*1080
		in	47*30*42.5
	Container Load (20'/40'/40'H)		26/56/56
Functions	Waterpack Storage Capacity (kg)		16
	Waterpack Freezing Capacity (kg/24h)		4
	High/Low Temperature (Y/N)		Y
	Power outage		Y
	Door opening alarm		Y
	Compressor failure		Y
	Sensor Error (Y/N)		Y
Accessories	Foot (Y/N)		N



Dual Zone and Dual System Design for Refrigeration and Freezing

- Designed with a dual zone of refrigeration and freezing, with refrigerated storage for vaccines and frozen icepack.
- The effective capacity of refrigeration is 100L, equipped with 2 shelves (HBCD-160)
- The effective capacity of refrigeration is 146L, equipped with 3 shelves (HBCD-220)
- Freezer Gross volume 40L, freezing capacity per 24h is 3.2kg (HBCD-160)
- Freezer Gross volume 40L, freezing capacity per 24h is 3.2kg (HBCD-220)

Security Guarantee

- Compliant with WHO PQS (WHO/PQS/E003/RF03.7, WHO/PQS/E003/RF03-VP.5) and Vaccine freeze protection classification: Grade A, ensuring that the vaccines inside the refrigerator are within the qualified range;
- Compliant with CE standard (IEC 60335-1-2020, IEC 60335-2-24-2020, EN 61000-6-1:2016, EN 61000-6-3:2011), to meet electrical safety design requirements.

Superior Reliability

- The whole machine has passed a 10-year accelerated aging test. The outer shell is made of powder coated steel plate, and the inner lining is made of 1.0mm corrosion-resistant alumina.

Efficient Insulation Design

- The 140mm insulation and double sealing strip door design have excellent insulation performance. The temperature inside the cabin will not be lower than 0 °C to prevent vaccine freezing.

Control System

- The refrigeration and freezing areas adopt two independent control systems. Digital electronic temperature controller with an accuracy of 0.1°C and temperature control range of 2-8 °C;
- Optional humidity control system can be used to achieve no condensation inside the cabin and prevent the vaccine box from getting wet.

Ergonomic Design

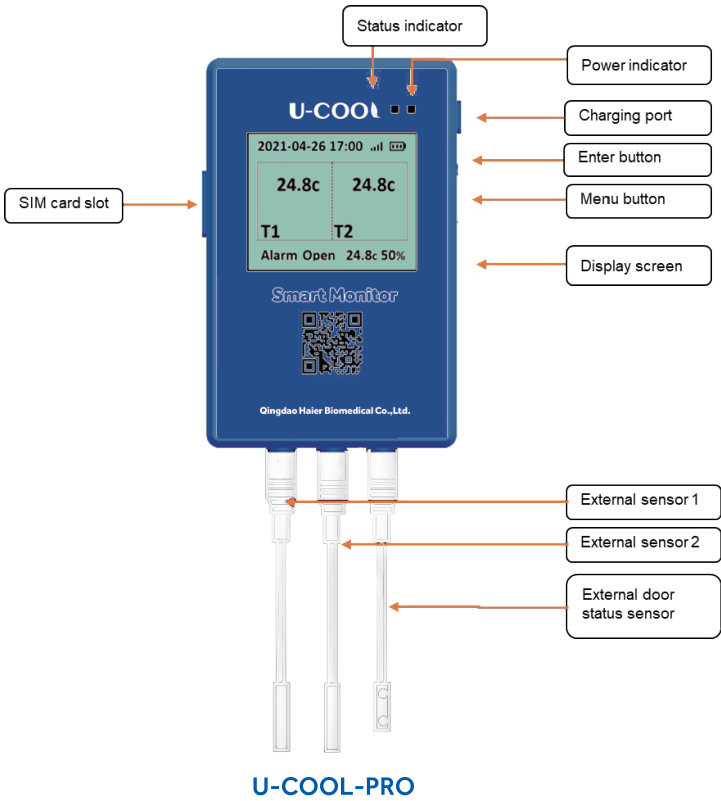
- EMS system can achieve wireless remote monitoring of temperature, compressor operation, and door opening and closing status; Equipped with a 4.3-inch color LCD screen; Adjustable shelf height, convenient for accessing to vaccines; Equipped with status indicator lights, convenient for operator to confirm the operation status in 3 meters.

Hardware Specification



Model		HBCD-160 (EMS)	HBCD-220 (EMS)
Technical Data	Cabinet Type	Upright	Upright
	Climate Type	H	H
	Cooling Type	Direct Cooling	Direct Cooling
	Defrost Mode	Manual	Manual
	Refrigerant	HC	HC
	Sound Level (dB(A))	≤43	≤43
	Temperature Range (°C)	Freezer: -25~-15 Refrigerator: 2~8	Freezer: -25~-15 Refrigerator: 2~8
Control	Controller	Microprocessor	Microprocessor
	Display	Solar LCD Temperature Display/4.3-inch Color LCD Screen (EMS)	
Electrical Data	Power Supply (V)	220V~240V/50Hz/60Hz	220V~240V/50Hz/60Hz
	Maximal Current (A)	2	2
	Energy Consumption: Stable Running (kWh/24h)	0.75	0.76
	Energy Consumption: Cool Down Test (kWh/24h)	0.88	0.89
	Holdover Time at 43°C	142	141.7
Construction	Vaccine Storage Capacity (L)	100	146
	Gross Volume (L)	120	180
	Net/Gross Weight (kg)	188/228	195/234
	Interior Dimensions (W*D*H) (mm)	Refrigerator: 545*500*530 Freezer: 560*520*150	Refrigerator: 545*500*650 Freezer: 560*520*150
	Exterior Dimensions (W*D*H) (mm)	920*915*1740	920*915*1860
	Packing Dimensions (W*D*H) (mm)	970*950*1910	970*950*2015
Functions	Container Load (20'/40'/40'H)	12/24/24	12/24/24
	High/Low Temperature (Y/N)	Y	Y
	Power outage	Y	Y
	Door opening alarm	Y	Y
Accessory	Compressor failure	Y	Y
	Sensor Error (Y/N)	Y	Y
	Foot (Y/N)	4	4
Others	Certificate	CE,WHO/PQS	CE,WHO/PQS
	Vaccine Freeze Protection Classification	Grade A	Grade A
	Freeze Gross Volume (L)	40	40
	Water Pack Storage Capacity in kg	22.4	22.4
	Freezing Capacity Per 24h in kg	3.2	3.2

Remote Temperature Monitoring Device



Innovative Design

- Remote platform monitoring
- LBS base station positioning
- Sensor is user configurable, and automatically uploads data to the online portal
- High accuracy
- User configurable
- Unplug and replace sensors as required

- Support 4G/3G/2G signal
- Live sensor location can be displayed on GoogleMaps
- USB data export
- The device supports a local sound/light alarm
- One full charge, more than 5 days of battery life (In good signal area)

Specifications

Item	Specifications
Model	U-Cool-Pro
Temperature Sensor	2 Pluggable Digital temperature sensors (or PT100 optional)
Temperature Range	NTC sensor: -40°C~+65°C PT100 sensor(optional): -200°C~+150°C
Accuracy	NTC sensor:±0.5°C within 0°C to +65°C, ±1°C within -40°C to +0°C PT100 sensor (optional) ±0.3°C
Door Sensor	1 Pluggable Reed Switch sensor
Battery	Lithium battery: 4000mAh
Alarm	Audio-visual: buzzer + LED light
Map Location	Google map and LBS (Location Based Service-Mobile Base Station Positioning)
USB	Micro USB: download data /charging
Material	Shell: PC
IP	IP64
Dimension	112mm*75mm*21mm
Communication Network Mode	4G/3G/2G
Charging Voltage	5V~12V
Charging Current	≤1A
Working Current	≤2A
Working Temperature	-10°C~+55°C
SIM Card	Micro SIM Card
USB	Micro USB, supports charging; When the device is turned off, it can be connected to the computer as a Flash drive to export data in PDF/TXT format. When the device is turned on, it can be connected to the computer as a virtual serial port, which can then be configured using the configuration tool.

For the real-time temperature monitoring of activities including the warehousing, distribution and laboratory preparation/storage of medicines, vaccines, blood, reagents, biological products and tissues etc. Primarily focused on cold storage from -196°C to +8°C, they can also be used for incubators, climate chambers and drying ovens up to +150°C. Can also monitor power/door status and humidity.



Innovative Design

- LoRa wireless ad hoc network communication technology, strong adaptability
- Smart gateway with backup battery, supports data breakpoint with continued transmission
- Sensors are battery powered, with an expected battery life of up to 3 years
- Real-time display of measurement data
- Suitable for monitoring temperature, door and power status

Technical Parameters



Product	Temperature Data Logger	Door On-off Monitor	Power Outage Monitor
Model	YB-HC600-01	YB-HC600-02	YB-HC600-03
Sensor	One line (5m) digital sensor	One line (3m) digital sensor	One line (3+3m) digital sensor
Measuring Function	Temperature Range: NTC Sensor: -40°C~+80°C PT100 Sensor (optional): -199°C~+199°C Precision: 0.1°C Accuracy: ±0.5°C	Door open-close monitoring	Power supply monitoring
Dimension (H*W*D mm)	125*73*23		
Battery	3.6V/5400mAh		
Communication	LoRa		
Display	LCD display, real-time display of measured data, such as battery level, signal strength, etc.		
Local-storage	Local storage data of 60000 sets and it supports breakpoint continued transmission		



Product	Smart Gateway
Model	YB-HZ600-01
Transit Network	4G SIM card/LAN
Maximum Number of Transmitters That Can Be Used (pcs)	60
Dimension (W*H*D mm)	160*100*33
Battery	3.7V/10000mAh
Communication	LoRa
Local-storage	60000 sets

Remote Temperature Recording:

- The external temperature sensor measures the temperature, records and stores the measured temperature values automatically, and transmits them to the cloud platform.

Application Scenarios:

- It can be used for real-time monitoring of storage and distribution of medicine, vaccine, blood, reagents, biological products, biological sample tissue, food and other items. The application scenarios include refrigerated trucks, incubators, cold rooms, cold packs, refrigerated cabinets, refrigerators, freezers and so on.

Cloud Platform Website <http://ems.haierbiomedical.com>

U-COOL



- Once powered on, the device immediately uploads the data automatically to the portal. Plug and play - one simple activation - no technical skills needed, easy and user friendly.
- Remote portal management platform, which can track temperature, signal strength information and has multiple data analysis reports.
- Powered by mains supply with battery back up (10 days) in the event of power failure (In good signal area).
- The device supports sound and visual alarms (Optional function).
- High precision sensors: -40°C ~ +65°C (NTC) -200°C ~ +150°C (PT100).
- High precision, wide range of temperature measurements.
- IP66 protection, waterproof, shockproof and dustproof to fit a variety of complex environments.
- Complies with WHO Standards, WHO prequalified code: E006/060.

Specifications

Item	Specifications
Temperature sensor	NTC sensor: -40°C~+65°C (±0.5°C within 0°C to +65°C, ±1°C within -40°C to +0°C) PT100 sensor (optional): -200°C~+150°C (±0.3°C)
Environment Sensor	Temperature: -10°C~+55°C Humidity: 0%RH-99%RH
2G	850M/900M/1800M/1900M
4G	LTE FDD: B1/B3/B5/B8 LTE TDD: B38/B39/B40/B41 WCDMA: B1/B8 TD-SCDMA: B34/B39CDMA: BC0 GSM: 900/1800MHz
Storage capacity:	60,000 sets of data
Battery	Charging voltage: 5V~12V Charging current≤1.5A
Alarm	Audio-visual: Buzzer + LED light
SIM card	Built-in Nano SIM
Map location	Google map and LBS(Location Based Service)
USB	Micro USB: download data /Charging
Material	Shell: PC / Shell jacket: ABS
IP	IP66
Dimensions	114.5 mm *71.5 mm *22mm

PLM-6 Solar Panel

This product is suitable for daily charging of Haier Biomedical RTMD equipment such as Ucool and Ucool pro using solar modules. It is recommended to be used in remote and sunny areas and areas with power shortage.

Product Features:

In order to overcome the situation of long-term power loss, battery damage, inability to charge and equipment failure caused by long-term unmanned management after power failure of equipment in remote areas, solar panels are the best choice.

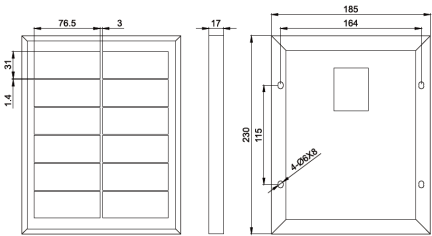
Product Advantages

- **Adopt high-efficiency PERC solar cells**

High conversion efficiency/Low decay rate/Low temperature coefficient.
- **User Friendly Design**

With an integrated adjustable bracket, the inclination angle can be adjusted from 0 to 60°, which is suitable for variety of different installation environments.

Product Dimensions



Product Pictures



Configuration List

Name	Specification	Unit	Quantity	Remark
Monocrystalline Silicon Solar Photo Voltaic Panels	6w	Piece	1	201 stainless steel, with non-slip gasket at the connection
Adjustable Stand	/	Set	1	
Wire	AVVR2*0.3mm²	Meter	15	
Nail Line Card	5mm	One	10	
Bulge	6*30	Set	2	

*Haier Biomedical reserves the right to change products and specifications without prior notice.

30 Days Electronic Temperature Logger

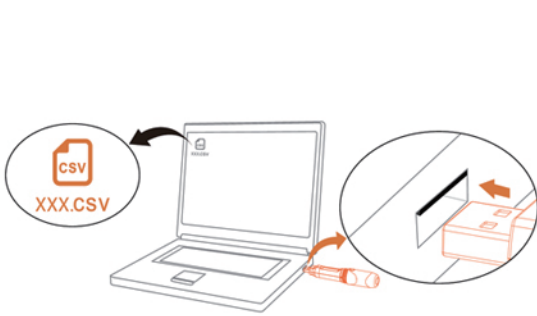
30-Day Electronic Temperature Logger



HETL-01



WHO Prequalified
PQS code:E006/042



Easy to download data



Accessory: Bracket

Product Features

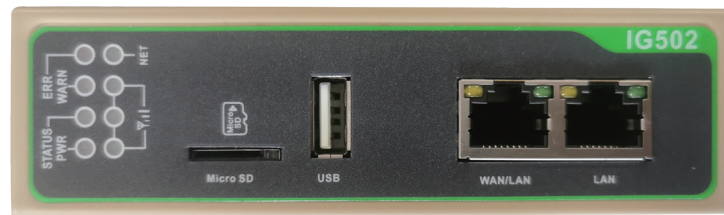
- Approved by WHO's PQS, PQS code:E006/042
- Designed specifically for 2~8°C vaccine storage, equipped with high/low temperature visual alarm to meet the WHO standard
- Recording capacity is over 30 days, recording interval is 6 minutes, outdated data will be overwritten by new one automatically, when the recording volume is full
- LCD screen displays temperature
- Integrated sensor device, dust and water resistant to IP65 protection standard, can be placed in Cold Box or vaccine refrigerator to monitor the temperature
- The logger can be plugged into the USB port of any PC to automatically generate a CSV file including temperature data and temperature graph which can be generated by data management software
- Built-in disposable wide temperature range lithium battery (Non-replaceable) with a minimum operating life of two years after a maximum shelf life of one year
- The bracket is included as standard

Specifications

Model	HETL-01
Temperature Range (°C)	-20~+50
Main Material	ABS (Transparent Shield: PC)
Data Interface	USB Interface
Display Medium	LCD
Resolution (°C)	0.1
Accuracy	±0.5°C for -20°C~+40°C, ±1°C for the others
Recording Volume	8192 Data Points(34 days)
Logging Interval	6 min
Power Source	Non-Replaceable Battery
Size (Length*Diameter mm)	131*24
Service Life	2~3 years

IoT Gateway

Making it easy to collect data from different onsite devices, validate data and upload them to the cloud, so as to realize the remote monitoring function. Applicable for the monitoring of the stored items in the Ultra-low temperature refrigerator, Liquid nitrogen containers, Solar power supply system, Oxygen station, cold room and liquid nitrogen containers in hospitals, in disease control centers, blood stations, laboratories, warehouses, pharmacies and machine rooms.



Product Advantages

Easy configuration, plug and play

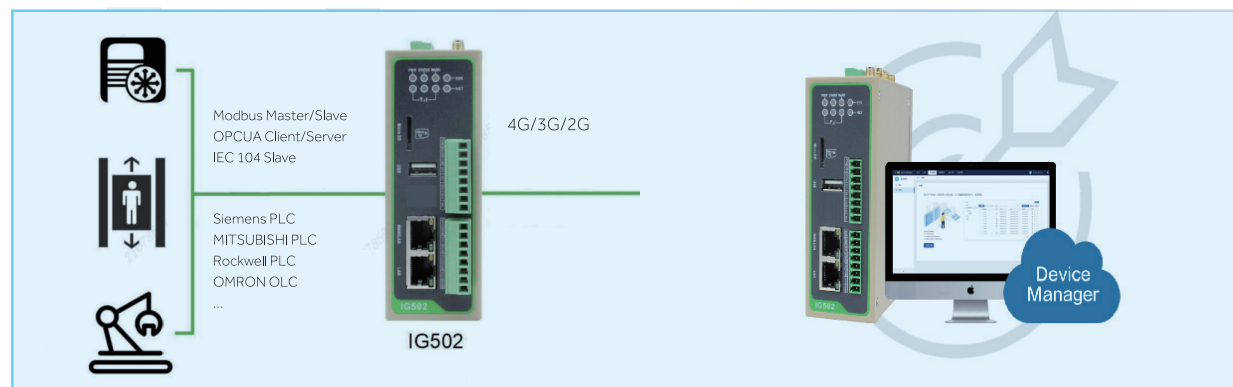
Uninterrupted and highly reliable connectivity through the 2G/3G/4G network, with data uploaded to the cloud-based monitoring platform.

Easy for Remote Management

Through remote monitoring and centralized management, you can easily track your devices and enjoy better efficiency for large scale deployment and preventive maintenance.

Purposely Designed for Industrial Scenarios

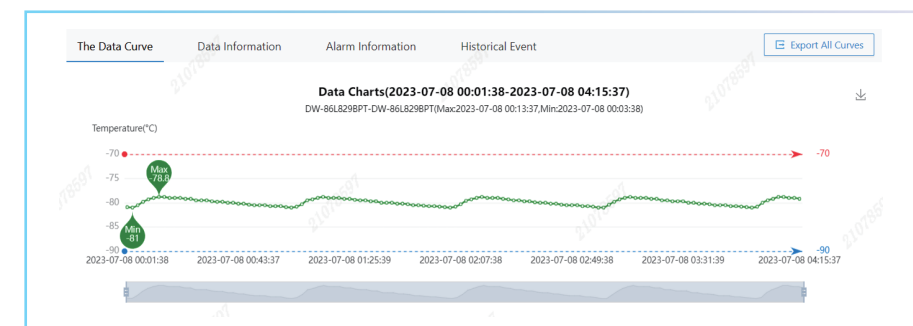
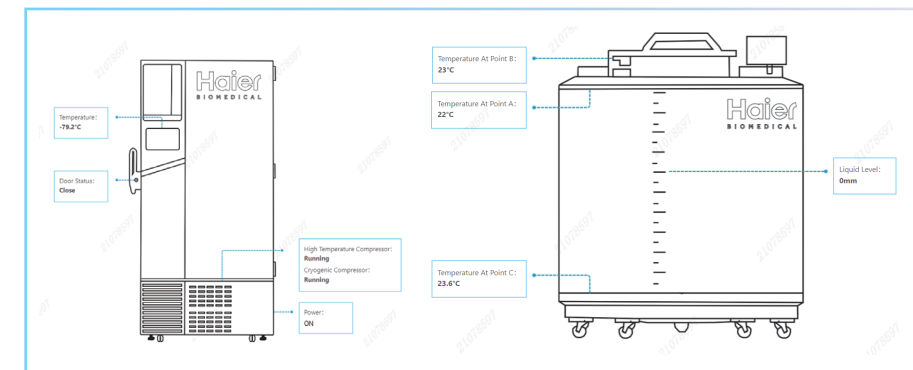
EMC level 3, IP30 protection rating, and wide temperature and voltage ranges make it enduring in challenging environments.



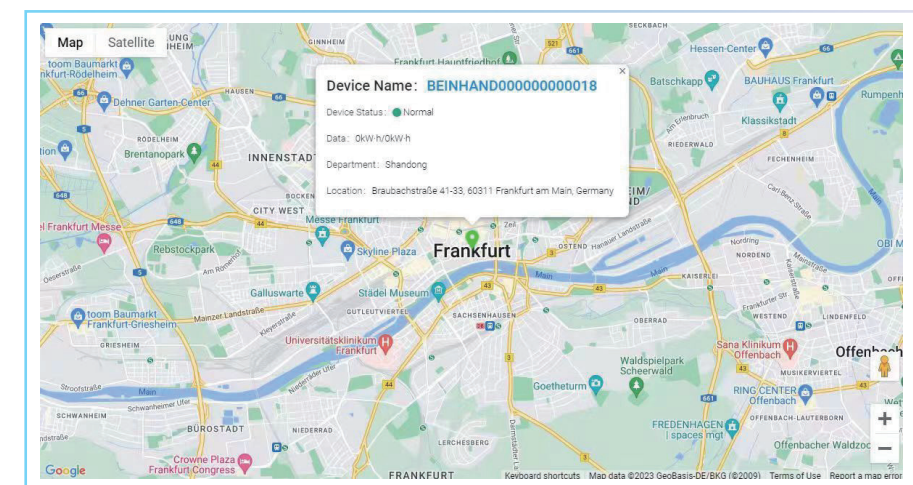
Equipment Management

User can monitor data in real time

(Ultra-low temperature refrigerator, Liquid nitrogen tank, etc)



Map Display



Hardware Specifications

	Model	IG502
Hardware Platform	CPU	ARM Cortex-A8
	Memory Capacity	512MB
	FLASH	8GB eMMC
Port	Ethernet Port	2*10/100Mbps fast Ethernet port, 1*WAN+1*LAN or 2*LAN
	Serial Port (optional)	RS485*1, RS232*1 or RS485*2
	Wi-Fi (optional)	2.4G (802.11/b/g/n)
	GPS (optional)	GPS, SMax1
	USB	USB2.0x1
	IO Port (optional)	4*DI, 4*DO
	Reset Key	Pinhole reset button
	TF	Support MicroSD
	Bluetooth (optional)	BLE4.0
Mechanical Features	Installation Methods	Rail, wall hanging, ear hanging
	Cooling Type	Fan-free cooling
	Shell	Metal shell
	IP Grade	IP30
Power Supply	Power Input	DC12-48V, Anti-reverse protection
	Standby Power Loss	200mA@12V
	Peak Power	500mA@12V
	Power Port	CLIPLINE
	Working Power Consumption	250mA@12V
Environment	Working Temperature	-20~70°C
	Environment Humidity	5~95% (Frost-free)
	Storage Temperature	-40~85°C
Indicator Light	LED	PWR, STATUS, WARN, ERR, Signal strength indicator lamps (3), LTE
EMC	Static Electricity	EN61000-4-2, level3
	Radiation Electric Field	EN61000-4-3, level3
	Pulsed Electric Field	EN61000-4-4, level3
	Surge	EN61000-4-5, level3
	Onducted Emission	EN61000-4-6, level3
	PFFMF	EN61000-4-8, Horizontal direction/vertical direction 400A/m (>level3)
	Oscillation Wave Immunity	EN61000-4-12, level3
Physical Characteristics	Quakeproof	IEC60068-2-27
	Drop	IEC60068-2-32
	Vibration	IEC60068-2-6
Others	Authentication Certificate	CE/UKCA/FCC/PTCRB/UL/C1D2 (Class 1Division 2)/ VerizonWirele ss/AT&T/IC/RCM/NBTC/ANATEL

	Model	IG502
Operating System	Operating System	Customized Linux
Network Interconnection	Network Access	APN/VPDN
	Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAPV2
	Network Standard	5G SA/NSA /LTECat4/LTECat1
	LAN Protocol	ARP/Ethernet
	WAN Protocol	Support static IP/DHCP
Network Protocol	IP Application	ICMP/DNS/TCP/UDP/TCPserver/DHCP
	IP Routing	Support static routing
Network Security	Multilevel User	Support multi-level administrative permissions
	Data Security	Support OpenVPN, support IPSecVPN
Reliability	Backup Function	Support dual SIM cards
	Link Online Detection	Heartbeat packet detection is sent, and the disconnection is automatically reconnected.
	Embedded Watchdog	Self-inspection technology of equipment operation, self-repair of equipment operation failure
Open Platform	Open Platform	Support Python development platform
	Access Cloud Platform	Support cloud platforms such as AWS, Azure and Ali
Protocol Type	Protocol Type	Modbustser/slave, Modbustser/slave, EtherNet/IP, ISOonTCP, OPCUAClient/Server, MitsubishiMC 3C/3E/3COverTCP, MitsubishiCPUPort, FINSUDP, HostLink, PPI, DLT645-2007, IEC104Server and other protocols.
Maintenance Management	Collocation Method	Configuration of Web interface
	Configure Backup	Support the import and export of configuration files
	Upgrade Mode	Support proprietary upgrade mechanism, and upgrade firmware locally or remotely.
	Log Function	Support local system logs and remote logs, and save important logs in case of power failure.
	Remote Administration	Support InHand Device Manager network management cloud platform, InConnet platform and iSCADA cloud platform; HTTPS, Telnet, SSH, etc.

Voltage Stabilizer

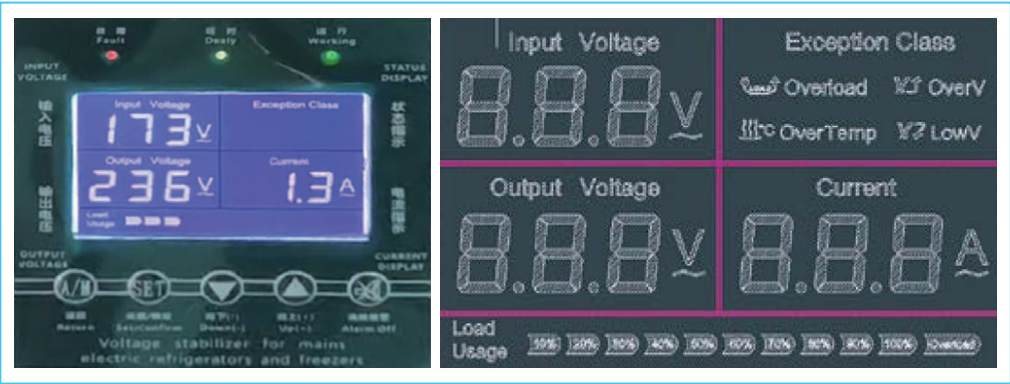
The HVS-1000U voltage stabilizer is developed, designed and manufactured according to the latest PQS standards. The product consists of single-phase multi-tap dry type transformer, relay integrated board, single-chip intelligent detection board and supporting display, external protection and control circuit. The voltage stabilizer central control system adopts single-chip intelligent control, which highlights the safety, reliability and stability of the voltage stabilizer under bad power supply conditions. With intelligent control, high safety, high reliability and other significant advantages! IoT modules can be selected to remotely view the power supply and power quality analysis, and achieve remote alarm of abnormal situations.



HVS-1000U

Fundamental Functions

- Requires no maintenance
- Microprocessor controlled stabiliser
- Very wide input withstand range (0-500V)
- Meet the latest WHO/PQS standards (VS01.6)
- With LCD screen, display input/output/working status information
- Fault record/protection record, can be viewed locally
- Frequency real-time detection, out of range protection
- Record the number of relay actions, which can be viewed locally
- The IoT function is optional to remotely view and analyze power supply information
- The product integrates a microcontroller-based intelligent detection board and a display, and the operation panel has been equipped with parameter setting buttons so that users or technicians can modify the working parameters of the voltage stabilizer.

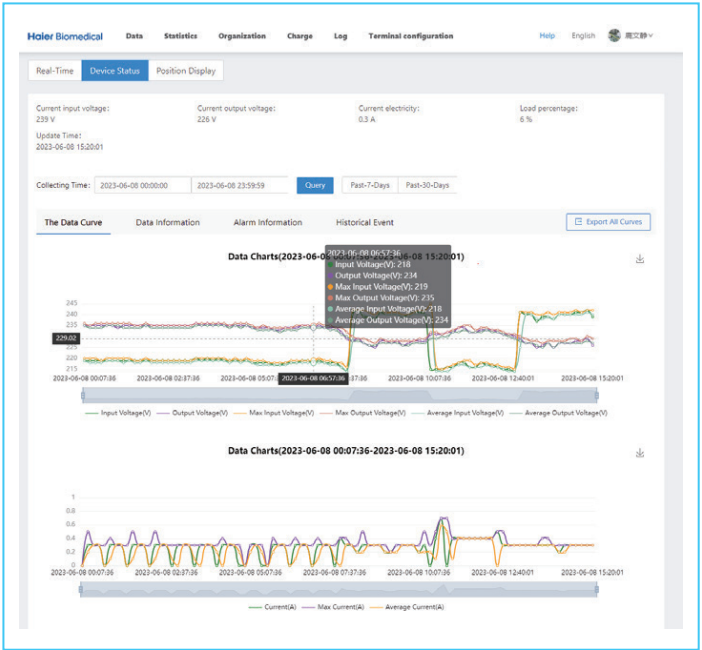
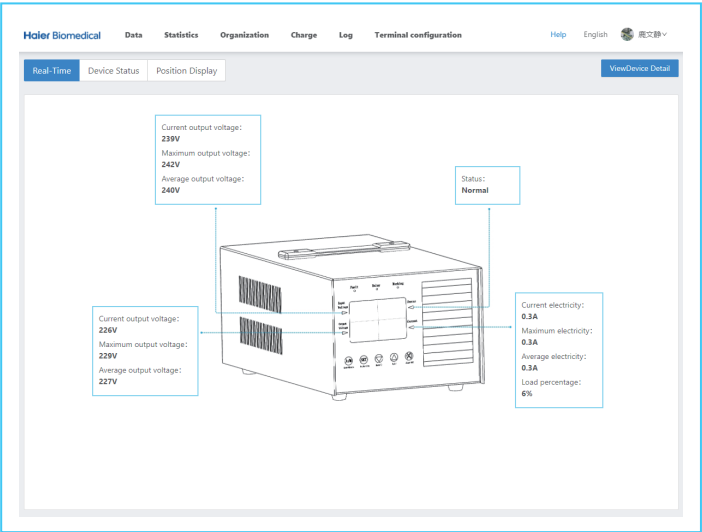


Specifications



Model	HVS-1000U
Output Voltage Range (V)	230 ±10%
Input Voltage Range (V)	110-264 AC
Continuous Input Withstand Range (V)	0-500 AC
Input Frequency (Hz)	47-63
Display	Output Voltage/Input Voltage/Current Value/Alarm State
Protection Function	Overvoltage, overcurrent, undervoltage, overload, over frequency, under frequenc; Short circuit, high temperature
Packing Dimension (W*D*H)(mm)	450*370*300
Gross Weight (kg)	11

IoT modules can be selected to remotely view the power supply and power quality analysis, and achieve remote alarm of abnormal situations.



Refrigerated Vaccine Vehicle

This product is suitable for cold chain transportation of drugs, vaccines, biological products, medical raw materials, fresh food and other products with strict requirements on temperature control.



- Firm structure, suitable for complex road conditions
- Low fuel consumption, high horsepower and low transportation cost
- Strong after-sales service capability, after-sales network all over the world
- Complies with WHO PQS Specification E002/RV01.2
- Double drive refrigeration system, can be powered by diesel generator or 220V AC
- Safe and reliable
- +2°C~+8°C accurate temperature control, high uniformity
- Thickened insulation layer, excellent insulation performance
- International brand refrigeration machine, high quality, strong performance

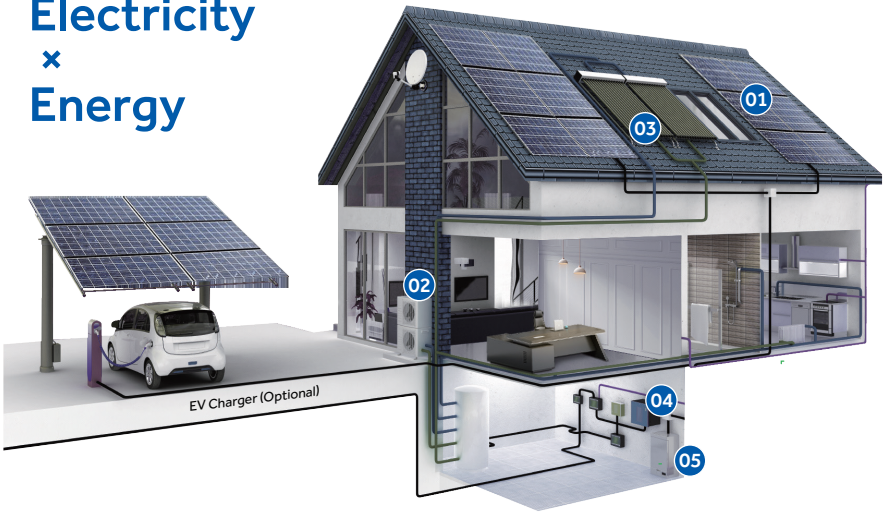
Specifications

Model		VR-23	VR-3
Refrigerated Vehicle	Combustion types	Diesel	Diesel
	Engine emission	EURO VI (EURO V/ EURO IV/ EURO III is optional)	EURO VI (EURO V/ EURO IV is optional)
	Steering wheel position	Left hand (Right hand is optional)	
	Transmission	4*2	4*4
	Gearbox	Manual	Manual
	Seats	3	2+3
	Color	White	White
	Cabin air condition	Air condition + Heating	Air condition + Heating
Refrigerated Body	Gross volume (m³)	5m³~25m³	2m³~5m³
	Customized mutiple capacities based on users' specific requirements		/
	Standard configuration	Dual rear door	Rear door
		LED lighting	LED lighting
		PVC curtain	PVC curtain
		Foldable ladder	/
		Side door	/
	Optional	Lifting gear	/
		Shelves	Shelves
		Air supply system	/
Refrigeration Unit	Brand	Carrier (Thermo King or other Chinese brands is optional)	
	Temperature range	+2°C~+8°C	
	Refrigerant	R452A or R404A	
	Climate zone	Hot zone: 0°C~+50°C	
		Cold zone: -20°C~+32°C	
	Others	The refrigeration unit with 220V~240V stand-by power device and heating device	/
Temperature Monitoring and Control Device	Temperature monitoring range	+2°C~+8°C	
	Data recording frequency	5 min	
	Sensor type	Wireless transmission (Wire transmission is optional)	
	Alarm type	Voice alarm	
Temperatures can be recorded electronically, downloaded and printed			

*Haier Biomedical reserves the right to change products and specifications without prior notice.

Scenario Construction Plan

Electricity
×
Energy



- 01

PV Module
(3~30kWp)
- 02

Heat Pump
(5~16kW)
- 03

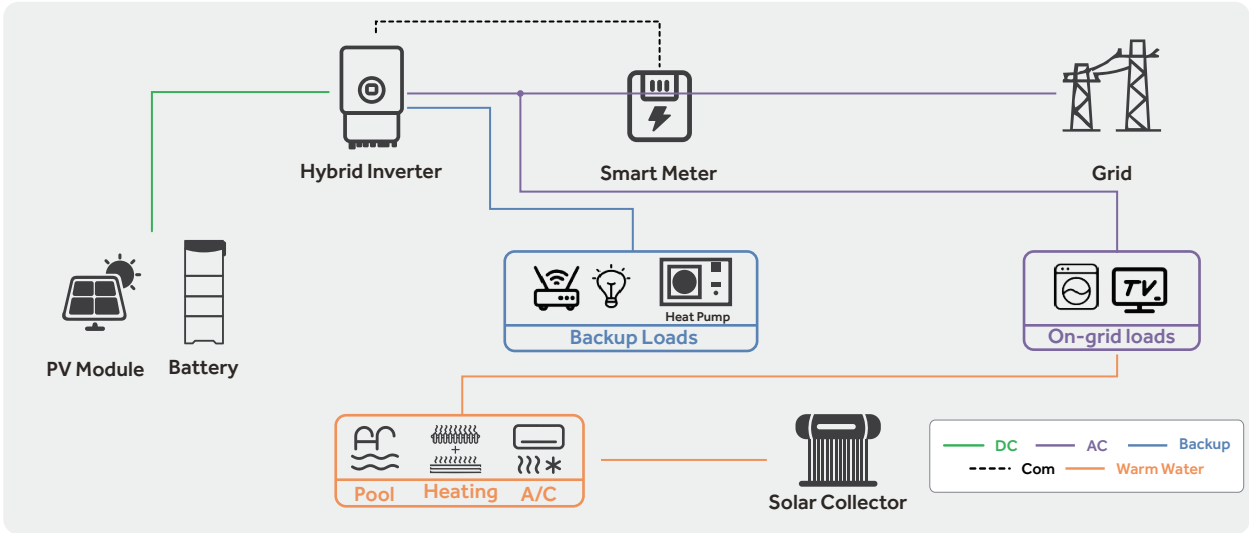
Solar Collector
(up to 60°C)
- 04

Hybrid Inverter
(3~12kW/1P&3P)
- 05

Battery System
5~20kWh up to 60kWh
- Smart Home&
Energy Manage System

Android/iOS/Web

System Schematic Diagram



Product Advantages

- Extreme Safety**
Batteries active and passive safety design
- Lower Cost**
Higher efficiency of RESS and heat pump
- UPS Level Switch**
Automatic on/off grid switching time 4ms
- Multi Inputs**
Grid/PV/Diesel GEN Standard
- Easy To Install**
Modular wiring-free design, 1 person installation
- Wide Range Operation**
Full power operation down to -30°C
- Flexible Parallel**
Flexible Inverter & Batteries parallel
- One-Stop Service**
All new/Retrofit one-stop Service

Mobile Energy Storage System



HLP-1X

Product Advantages

	Conventional	HLP-1X
<div></div> <div>Ideal Power Supply for Outdoor Activities Lightweight, durable and portable power supply for travel, has multiple uses and strong compatibility to charge digital products such as laptop, Tablet, phone, drone, Bluetooth headphones, lamp etc.</div>		
<div></div> <div>Long-lasting Battery Cells Batteries with lithium iron phosphate (LiFePO4) have a 6 times longer life and can survive 3000 cycles compared to the average battery of similar portable charging stations.</div>		
<div></div> <div>LED Light Design Features a built-in LED light to protect you and your family and friends during a power outage in the dark. 5 LED light modes include SOS, Warning and 3 different brightness.</div>		
<div></div> <div>Excellent Pass-through Charging This allows you to charge your power station while connecting important devices at the same time. Allows you to charge all your devices quickly and conveniently.</div>		
<div></div> <div>Smart BMS Management The battery management system (BMS) can stop charging to avoid over-current, overload, over-temperature and short circuit.</div>		