



***Rapid Shutdown, MPPT Optimizer
Energy Storage System
Micro Inverter, EV Charger***

<http://www.yroele.com>

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YRSD Rapid Shutdown Devic

Product parameter

Technical Parameter	
Main Parameters	
YRSD-1A to YRSD-10A	
String voltages (Vdc)	1000V 1500V
String current (A)	40A 26A
Number of strings	1 to 10
Operating voltage	100Vac-270Vac
Nominal voltage	230Vac
Operating temperature range	-40°C-+70°C
Storage temperature range	-40°C-+85°C
Protection degree	IP66
Certification	CE
DC Switch disconnect according to	EN 60947-1&3
Number of operations under load(PV1)	>1500

YRSD Rapid Shutdown Devic



About Rapid Shutdown

1.1 Intended Use of the Rapid Shutdown

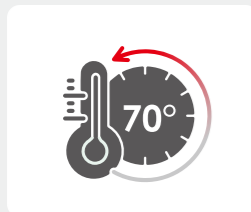
The Rapid Shutdown has been especially developed as a safety device for direct current (DC) photovoltaic installations. The DC disconnect switch is used to disconnect the connected strings of the installation in case of an emergency situation.

Such an emergency situation could be in case of fire.

1.2 Location of the Rapid Shutdown

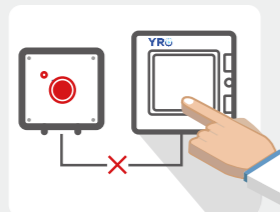
The Rapid Shutdown needs to be placed as close to the solar panels as possible. Due to its enclosure, the switch is protected against external influences like dust and moisture. The whole set-up is conformed to IP66 which makes it suitable for outdoor usage when needed.

Automatic Shutdown



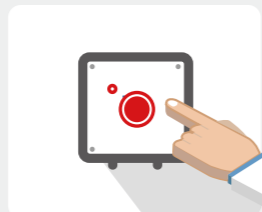
Automatically shutdown the DC power of panels when detecting temperature of the area is higher than 70°C.

AC Power Shutdown



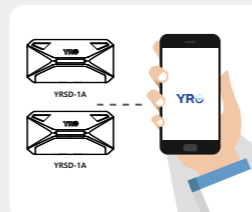
Firefighters or homeowners can manually turn off the AC power of the distribution box when in an emergency or it can automatic shutdown when the AC power has lose.

Manual Shutdown



In an emergency, it can be shut down manually through the Panel Level Rapid Shutdown Controller Box.

RS485 shutdown Optional



Maintenancers or homeowners can also remotely shutdown through RS485 communication (Optional)

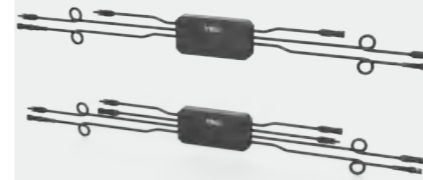


YRO Modular level RSD DC 24V Series

Product parameter

Type	YRSD-1P	YRSD-2P
Number of PV Inputs	1	2
Number of Modules Recommend	1-2	2-4
Maximum Allowed Input Voltage	120V	
Maximum Allowed Input Current	18A / 25A	
Maximum Output Voltage	120V	240V
System Voltage	1000V / 1500V	
Control Compliance	24VDC + 2 x 0.8mm ² Cable	
Ambient Operating Temperature	-30°C to +60°C	
Protection Temperature	85°C	
IP Level	>IP68, NEMA 4X	
Fire-proof Level	Flame retardant, UL94-V0	
Humidity	0%-90%	
PV Connectors	MC4 (Customized)	
Standard Compliance	NEC2017/2020 (690.12); UL1741; UL3741; IEC/EN62109; IEC/EN61000	

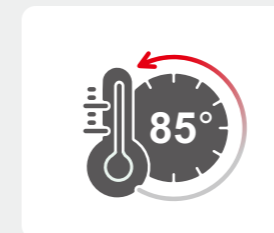
YRO Modular level RSD DC 24V Series



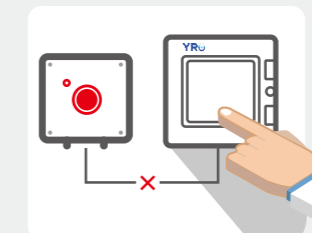
Summary

The YRO Modular level RSD DC 24V Series Overview is designed to be installed at solar panel level and provides safety shutdown of the DC supply to ZERO VOLTS in case of emergency. Shutdown is initiated in 3 ways - Manual Operation, AC Supply Cut-Off or Temperature Rise Trigger as follows:

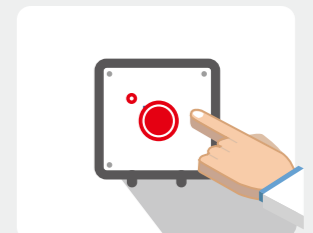
Temperature Rise Trigger



AC Supply Cut-Off



Manual Operation

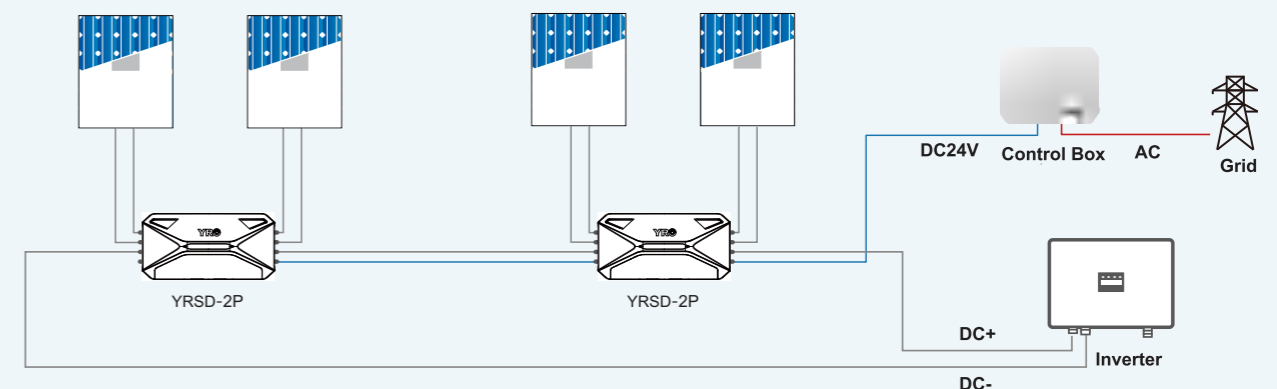


≤120V

≤120V

≤120V

≤120V





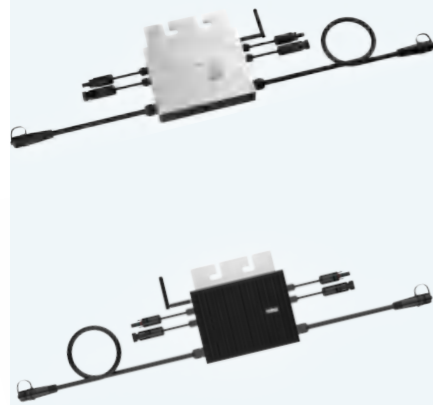
Microinverter Series

Model	YR400MD	YR500MD	YR600MD	YR700MD
Number of Input MC4 Connector	2 Set			
MPPT Voltage Range	24V-40V			
Operation Voltage Range	18V-50V			
Maximum Input Voltage	50V			
Startup Voltage	18V			
Maximum Input Power	2*200W	2*250W	2*300W	2*350W
Maximum Input Current	2*8A	2*10A	2*12A	2*14A
Output Power	395W (Rated) / 400W (Maximum) 495W (Rated) / 500W (Maximum) 590W (Rated) / 600W (Maximum) 650W (Rated) / 700W (Maximum)			
Voltage&Current Nominal Output Single-Phase	@120VAC:3.33A / @230VAC:1.73A @120VAC:4.16A / @230VAC:2.17A @120VAC:5A / @230VAC:2.6A @120VAC:5.4A / @230VAC:2.8A			
Maximum Units per Branch	@120VAC:6units/@230VAC:11units @120VAC:5units/@230VAC:9units @120VAC:4units/@230VAC:8units @120VAC:4units/@230VAC:7units			
Default Output Voltage Range	@120VAC : 80V-160V / @230VAC : 180V-280V			
Default Output Frequency Range	@50Hz : 47.5Hz-52.5Hz / @60Hz : 57.5Hz-62.5Hz			
Peak Efficiency	95% / MPPT 99.9% / PF >0.99 / THD <5%			
CEC Weighted Efficiency	@120VAC : 92.5% / @230VAC : 93.5%			
Night Power Consumption	<700mW			
Temperature Range	-40°C to +65°C(Ambient) / -40°C to +85°C(Storage)			
Dimensions (W x H x D) / Weight	185mmx180mmx38.5mm/1.5kg			
Waterproof Grade	IP65			
Cooling Mode	Natural Convection - No Fans			
Communication	2.4G Wireless			
Protection Functions	Isolated Island Protection, Voltage Protection, Frequency Protection, Temperature Protection, Current Protection, etc.			

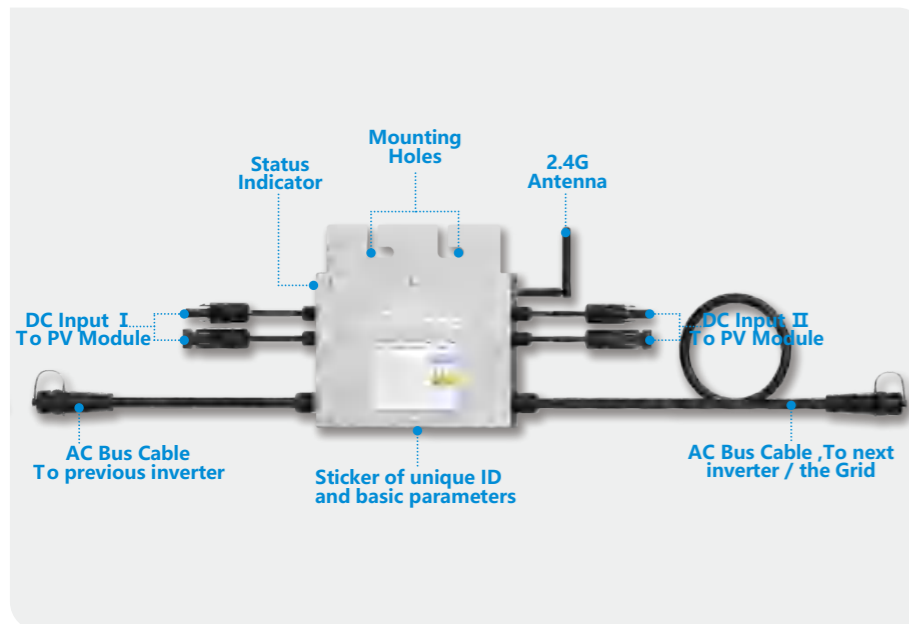
YR400 YR500

YR600 YR700

Microinverter Series



Basic Structure



Features

- ◀ Maximum 400W AC output power
- ◀ Up to 11 units (230V) per branch
- ◀ Maximum 500W AC output power
- ◀ Up to 9 units (230V) per branch
- ◀ Maximum 600W AC output power
- ◀ Up to 8 units (230V) per branch
- ◀ Maximum 700W AC output power
- ◀ Up to 7 units (230V) per branch
- ◀ Single unit connects up to two PV modules
- ◀ Single-phase output, Flexible 3phase PV systems
- ◀ 2.4G wireless communication and monitoring
- ◀ Customizable various input (DC,PV) voltage range
- ◀ Integrated AC bus cable, Ready-To-Use
- ◀ Low cost, Easy installation



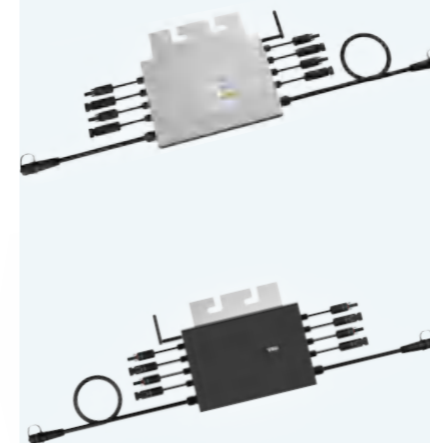
Microinverter Series

Model	YR1000MQ	YR1200MQ	YR1400MQ
Number of Input MC4 Connector	4 Set		
MPPT Voltage Range	24V-40V		
Operation Voltage Range	18V-50V		
Maximum Input Voltage	50V		
Startup Voltage	18V		
Maximum Input Power	4*350W	4*300W	4*350W
Maximum Input Current	4*14A	4*12A	4*14A
Output Power	990W (Rated) / 1000W (Maximum) 1150W (Rated) / 1200W (Maximum) 1350W (Rated) / 1400W (Maximum)		
Nominal Output Voltage & Current Single-Phase	@120VAC : 8.25A / @230VAC : 4.3A @120VAC : 9.58A / @230VAC : 5A @120VAC : 11.25A / @230VAC : 5.86A		
Maximum Units per Branch	@120VAC : 4 units / @230VAC : 9 units @120VAC : 4 units / @230VAC : 8 units @120VAC : 3 units / @230VAC : 6 units		
Default Output Voltage Range	@120VAC : 80V-160V / @230VAC : 180V-280V		
Default Output Frequency Range	@50Hz : 47.5Hz-52.5Hz / @60Hz : 57.5Hz-62.5Hz		
Peak Efficiency	95% / MPPT 99.9% / PF >0.99 / THD <5%		
CEC Weighted Efficiency	@120VAC : 92.5% / @230VAC : 93.5%		
Night Power Consumption	<700mW		
Temperature Range	-40°C to +65°C(Ambient) / -40°C to +85°C(Storage)		
Dimensions (W x H x D) / Weight	250mm x 230mm x 38mm / 2.5kg		
Waterproof Grade	IP65		
Cooling Mode	Natural Convection - No Fans		
Communication	2.4G Wireless		
Protection Functions	Isolated Island Protection, Voltage Protection, Frequency Protection, Temperature Protection, Current Protection, etc.		

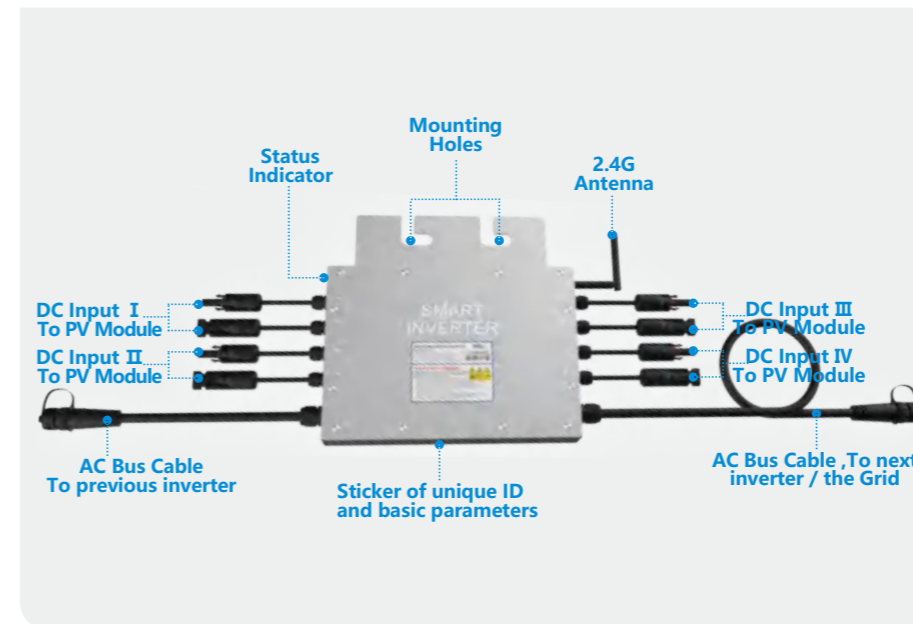
YR1000 YR1200

YR1400

Microinverter Series



Basic Structure



Features

- ◀ Maximum 1000W AC output power
- ◀ Up to 9 units (230V) per branch
- ◀ Maximum 1200W AC output power
- ◀ Up to 8 units (230V) per branch
- ◀ Maximum 1400W AC output power
- ◀ Up to 6 units (230V) per branch
- ◀ Single unit connects up to two PV modules
- ◀ Single-phase output, Flexible 3phase PV systems
- ◀ 2.4G wireless communication and monitoring
- ◀ Customizable various input (DC,PV) voltage range
- ◀ Integrated AC bus cable, Ready-To-Use
- ◀ Low cost, Easy installation



Monitoring System NETMS

Monitoring System NETMS

DataBox - Data Collector

Model	DataBox24G
Applicable Microinverter	All Microinverter of YR series
DataPlusSupported	No
Power Voltage	Power by USB (5V, without external power supply)
Interface Type	USB-A 2.0
Communication Distance	50 meters (Visual Distance)
Communication Interface	2.4G Wireless
Communication Protocol	NETSGP1.2
Max. Microinverter Supported	999 units
PowerConsumption	105mW (Communicating)
Standby PoweConsumption	5mW
Waterproof	IP45
Dimensions (W x H x D)	70mm x 60mm x 24mm
Weight	0.2kg

NETMS - Monitoring Software

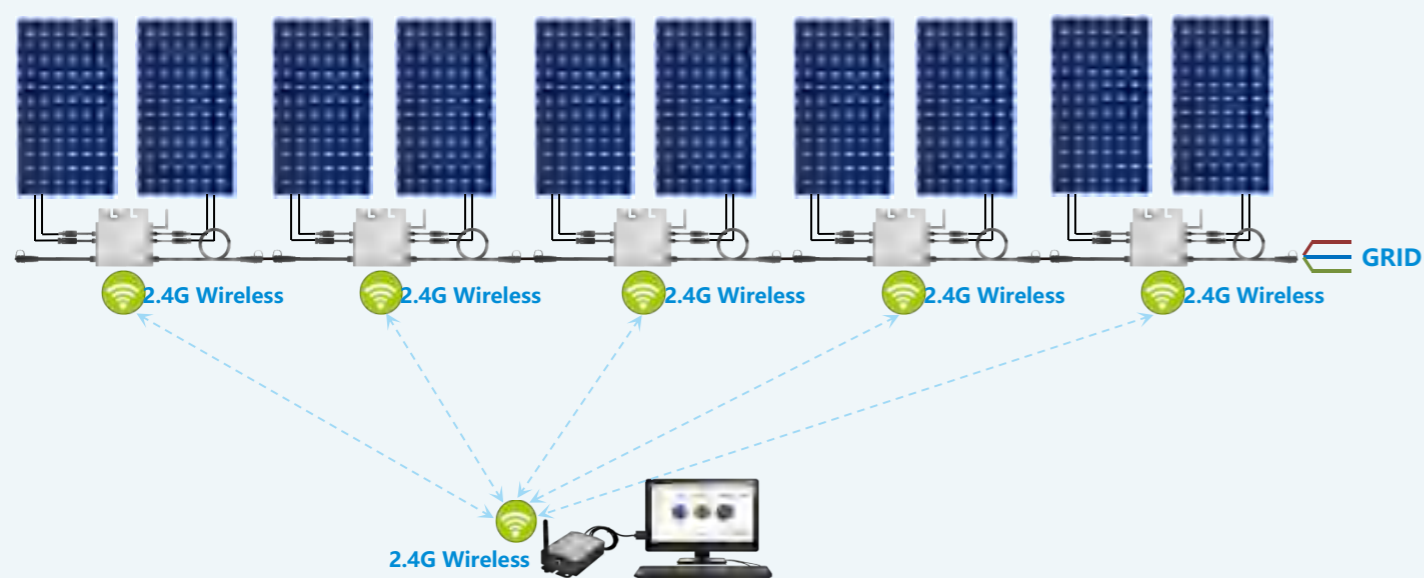
OS	Windows OS, Windows Server
Size	5MB
Language	English, Chinese
Minimum RAM Requirements	1GB
Min. Disk Available Space	1GB
Data Storage Location	Local hard disk
Auto Data Collect Interval	Adjustable
Max. Microinverter Supported	999units (WithoutDataPlus) / 999*999units (WithDataPlus)
Max.DataPlusSupported	999 units (Max. 999units Microinverter perDataPlus)



Basic Structure



Monitoring System Schematic



YHQ-600PV MPPT Optimizer

YHQ-600 PV MPPT Optimizer

Specifications

- 3% ~ 25% optimization, retrieve power generation loss
- $\Delta < 10^{\circ}\text{C}$ Anti-Hotspot, more safe and durable
- Applies to all types of modules, Optimization +Voltage Limiting +Anti-Hotspot
- Based on power optimization chip, eliminate panel or cell level mismatch
- Solve the current mismatch issues caused by shading gradients, aging variations, temperature gradients, soiling gradients, etc
- Optimize power generation, lower LCOE, improve solar system reliability, extend the service life of module
- TUV Certification

Parameters

Product Model	YHQ-600
Maximum Input Power	600W
Operating Voltage Range	3~70V
MPPT Voltage Range	8~70V
Maximum Input Current	15A
Over-current Protection	18A
Over-temperature Protection	160°C
Maximum Output Current	17A
Output Voltage Limiting Threshold	42V
Total Maximum System Voltage	1500V
72 Type Module String@1500 V	36Modules
72 Type Module String@1100 V	26Modules
72 Type Module String@1000 V	24Modules
Peak Conversion Efficiency	99.50%
Power Consumption @5 A	0.9W
Power Consumption @8 A	1.4W
Power Consumption @12 A	2.9W
Power Consumption @15A	3.8W
Power Consumption @20 A	/
Dimensions(L×W×H)	105*105*20mm
Weight	500g
Cable	4.0mm ² Input Wire 50 cm * 2Pcs Output Wire 70 cm* 2Pcs
Connector	MC4(Compatible)
Operating Temperature Range	-40°C~ +85°C
Protection Degree	IP68
Designed Life	30 Years
Quality Commitment	12 Years
Standard Features	Optimization; Voltage Limiting; Anti-Hotspot



Advantage of Long String Installation (Voltage Limiting)

YHQ-600	Conventional Module	Optimized Module	Cost Reduction
Module & Inverter *			
Maximum Module Qty/String	1100V ÷ 53V=20pcs	1100V ÷ 42V = 26pcs	Module Qty add 30%
Power/String	20pcs x 370W = 7400W	26pcs x 370W = 9620W	Power add 30%
Combiner Box (16 strings)	7400W x 16strings = 118.4kW	9620W x 16strings = 153.9kW	Cost /Wp ↓
Central Inverter (16 strings)	118.4kW x 16strings = 1894kW	153.9kW x 16strings = 2463kW	Cost /Wp ↓
Cable	DC Cable	String Qty/Labor Cost/Line Loss↓	Cost /Wp ↓
String Operating Voltage	750V~780V	850V~900V	Higher System Efficiency



AC Charging Box

Product name	Portable AC charging box (plastic type)	
Model	AF-AC-3.5KW	AF AC 7KW
Dimensions (mm)	324*139*342	
Human-computer interaction	Display screen	
AC power	220Vac±20% ; 50Hz±10% ; L+N+PE	
Rated current	16A	32A
Output Power	3.5kW	
Operating model	Altitude: ≤2000m; Temperature: -20°C~+50°C; Swipe card, scan code Offline no billing, offline billing, online billing	
Protective function	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.	
Charging port	IEC 62196	
Charging cable length	Standard 3.5 meters (optional)	
Protection level	Ip54	

- Housing material: thermoplastic, flame retardant grade UL94 V-0
- Terminal: Copper alloy, silver plated on the surface
- Working environment temperature -30°C+50°C
- Rated working current: 10A/15A
- Working voltage: 250V
- Insulation resistance: >1000MΩ (DC500V)



J1772(Type1) J1772(Type1) Mennekes(Type2) GB/T

3.5/7KW AC Charging Box



Product parameter

Product name	7KW plug-and-charge AC charging pile (plastic type)	
Model	AF-AC-7KW	
Dimensions (mm)	150*150*60	
AC power	220Vac±20% ; 50Hz±10% ; L+N+PE	
Rated current	32A	
Output Power	7kW	
Working environment	Altitude: ≤2000m; Temperature: -20°C~+50°C;	
Charging method	Plug and charge	
Protective function	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.	
Charging port	IEC 62196	
Charging cable length	Standard 3.5 meters (optional)	
Protection level	Ip54	

- Housing material: thermoplastic, flame retardant grade UL94 V-0
- Terminal: Copper alloy, silver plated on the surface
- Working environment temperature -30°C+50°C
- Rated working current: 10A/15A
- Working voltage: 250V
- Insulation resistance: >1000MΩ (DC500V)



J1772(Type1) J1772(Type1) Mennekes(Type2) GB/T

3.5/7KW AC Charging Box



AC Charging Station

Product name	AC charging pile (plastic type)
Model	AF-AC-7KW
Dimensions (mm)	370*255*85
Human-computer interaction	4.3 inch display
AC power	220Vac±20% ; 50Hz±10% ; L+N+PE
Rated current	32A
Output Power	7kW
Working environment	2G, 4G, Wifi, applet
Charging method	Swipe card, scan code
Networking method	Offline no billing, offline billing, online billing
Operating model	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.
Protective function	Altitude: ≤2000m; Temperature: -20°C~+50°C;
Charging port	GB/T 20234.2-2015
Charging cable length	Standard 3.5 meters (optional)
Protection level	Ip54
Installation method	Wall-mounted or floor-mounted installation, corresponding accessories are required

7KW AC Charging Station



Product name	AC 7kW Charging Station
Type	KY-AC-7kW Plastic version (home use)
Dimension(mm)	340*240*110
User Interface	4.3 inch highlight display ; L+N+PE
AC Power	220Vac±20% ; 50Hz± 10%
Rated Current	32A
Output Power	7kW
Working Condition	Elevation: ≤2000m; Temperature: -20°C~+50°C;
Charging Mode	APP payment, swipe card, scan code
Networking Mode	2G, 4G, wifi
Operation Mode	Offline no billing, offline billing, online billing
Protection Function	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.
Executive Standard	IEC 62196, SAE J1772
Protection Level	Ip54
Installation	Wall-mounted or floor-mounted installation



Wall-mounted/Standing AC Charging Station

7/14KW Wall-mounted/ Standing AC Charging Station



Product name	AC charging pile (plastic type)	
model	AF-AC-7/14KW	
Dimensions (mm)	340*240*110	480*350*120
Human-computer interaction	4.3 inch touch screen	
AC power	220Vac±20% ; 50Hz±10% ; L+N+PE	
Rated current	32A	
Output Power	7kW	14kW
Working enviroment	2G, 4G, Wifi, applet	
Charging method	Swipe card, scan code	
Networking method	Offline no billing, offline billing, online billing	
Operating model	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.	
Protective function	Altitude: ≤2000m; Temperature: -20°C~+50°C;	
Charging port	IEC 62196	
Charging cable length	Standard 3.5 meters (optional)	
Protection level	Ip54	
Installation method	Wall-mounted or floor-mounted installation, corresponding accessories are required	

The AC charging station provides AC power with AC 50Hz and rated voltage 220V, Charging electric vehicles with on-board chargers is mainly suitable for the following places: Large, medium and small electric vehicle charging stations; all kinds of electric vehicle parking spaces Public places, such as urban residential quarters, shopping plazas, power business places, etc.;High-speed service areas, stations, docks and other transportation hub areas; real estate and engineering Construction acceptance needs.



J1772(Type1) J1772(Type1) Mennekes(Type2) GB/T

Product parameter

Product name	AC charging pile (plastic type)	
model	AF-AC-22/44KW	
Dimensions (mm)	370*255*85	
Human-computer interaction	4.3 inch display	
AC power	220Vac±20% ; 50Hz±10% ; L+N+PE	
Rated current	32A	
Output Power	7kW	
Working enviroment	2G, 4G, Wifi, applet	
Charging method	Swipe card, scan code	
Networking method	Offline no billing, offline billing, online billing	
Operating model	Overvoltage, undervoltage, overcurrent, short circuit, surge, leakage, etc.	
Protective function	Altitude: ≤2000m; Temperature: -20°C~+50°C;	
Charging port	IEC 62196	
Charging cable length	Standard 3.5 meters (optional)	
Protection level	Ip54	
Installation method	Wall-mounted or floor-mounted installation, corresponding accessories are required	

Large, medium and small electric vehicle charging stations; urban residential communities, shopping plazas,Electricity and other public places and business places with parking spaces for electric vehicles; high-speed services Districts, stations, docks and other transportation hub areas; real estate and engineering construction acceptance needs.



J1772(Type1) J1772(Type1) Mennekes(Type2) GB/T



Micro inverter build-in Energy Storage

YR5KVA-3.5kVA Micro inverter build-in Energy Storage



Rated output power	1.28kVA
Peak output Power	1.92kVA(10 seconds)
Output voltage&frequency	240/211-264VAC @50-60HZ
Power factor adjustment range	0.8 lead to 0.8 lag
Total harmonic distortion of current	<3%
DC battery input voltage	67.2V-75.6V
Battery capacity	50Ah
Chemistry	Lithium iron Phosphate
Size	510*350*170mm
Maximum efficiency	97.6%
Working temperature	-15 °C~55 °C
Working humidity	10%~90%
Cooling method	Natural convection
Communication Port	Ethernet/RS485/CAN
Protection level	IP21

Features

- ◀ Minimalist, flat, integrated design with small footprint
- ◀ Flexible expansion of energy storage capacity, easy installation and maintenance
- ◀ Long life and high safety battery cells
- ◀ Lithium battery and inverter collaborate for efficient energy management and high conversion efficiency
- ◀ Lithium battery system, inverter intelligent electrical protection
- ◀ Support intelligent switching between parallel and offline networks
- ◀ Support multiple operating modes to improve the self utilization rate of photovoltaic power generation, peak shaving and valley filling
- ◀ Data monitoring function