



GREEN SOLUTIONS INC.

TO MAKE CLEAN ENERGY UNIVERSALLY ACCESSIBLE

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GREEN SOLUTIONS INC.

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Founded in 2016, we are a battery product company focusing on energy storage technology development, product design, manufacturing and product sales.

GREEN SOLUTIONS specializes in battery electronics and storage solution development. We provide turn-key clean energy solutions to our customers.

MISSION

To make clean energy universally accessible.

PRODUCTS



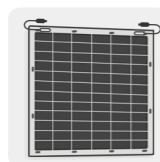
Low Voltage Batteries
page 03



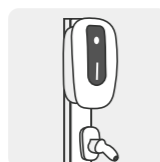
High Voltage Batteries
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Commercial & Industrial Energy Storage System
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Balcony Solar System
page 11

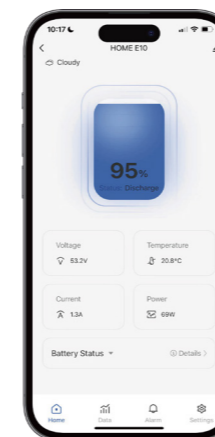


EV Chargers
page 13

INTRODUCTION

Transform your smartphone into a complete energy management system with the Smart Life , allowing you to effortlessly control and manage your home energy network. You can easily monitor and adjust energy usage, track costs and optimize your home's energy efficiency.

SMART LIFE APP



Low Voltage Batteries
5/10 kWh high power 1C batteries



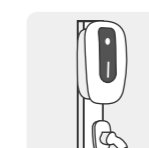
High Voltage Batteries
6-18 kWh stackable batteries



Commercial & Industrial Energy Storage System
215kwh storage system



Balcony Solar System
Solar panel and micro-inverter for easy solutions of balcony



EV Chargers
Dynamic load balancing to safely balance EV charging and home loads

LOW VOLTAGE LI-ION HOME BATTERY

5/10 kWh High Power 1C Battery



The First Home Energy Storage Battery with Fire Extinguisher Integrated



-20°C Cold Climate Outdoor & Indoor Installation



Auto-active Heating for Cold Climate Usage



Radiation Cooling for Hot Climate Usage



High Performance Battery Cells from CATL (World's No. 1 Battery Supplier)



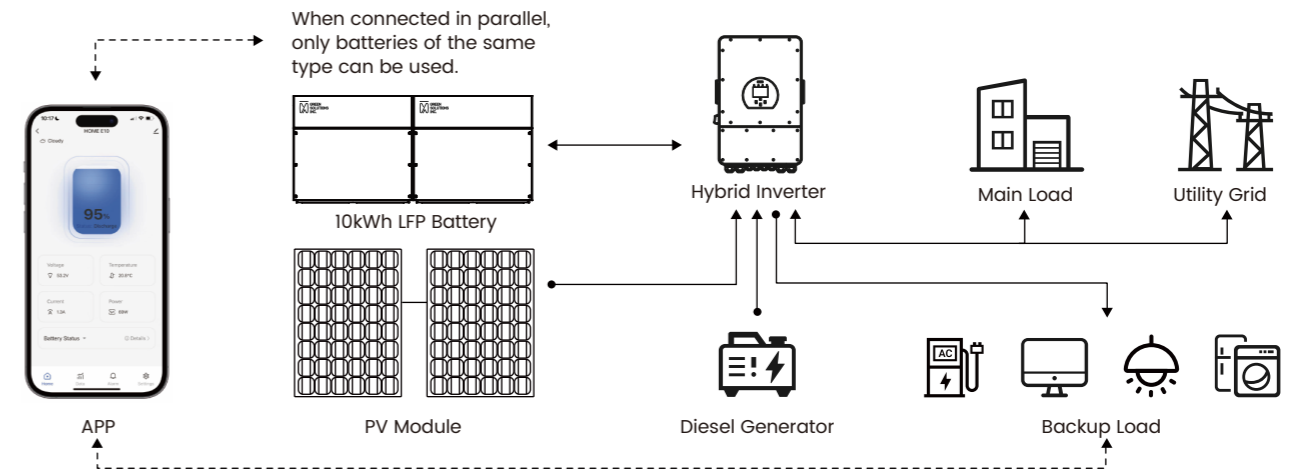
LFP – Proven Safe Battery Chemistry



Electric Vehicle Grade Battery Module Design



Stackable up-to 4 Batteries



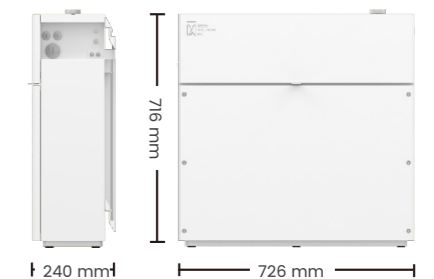
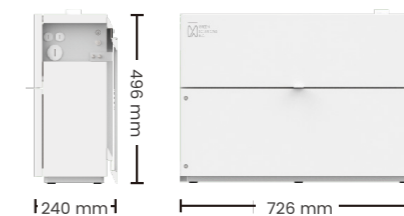
ELECTRICAL	MODEL: E5	MODEL: E10
Nominal/Usable Energy	5.1 / 4.8 kWh	10.2 / 9.7 kWh
Max. Power	5 kW	10 kW
Max. Current	100 A	200 A
Voltage Range	40 ~ 57.6 V	40 ~ 57.6 V
DC Efficiency	95.4%	95.4%
GENERAL		
Battery Type	LFP	LFP
Protection	Auto-Fire Extinguishing	Auto-Fire Extinguishing
Energy Expansion	Up to 20 kWh (4x E5)	Up to 40 kWh (4x E10)
Communication	CAN, RS485, WiFi	CAN, RS485, WiFi
MECHANICAL		
Dimension (L*W*H)	240*726*496mm	240*726*716 mm
Weight	65 kg	120 kg
Ingress Rating	IP65	IP65
OPERATION		
Temperature Range	-20°C ~ 55°C	-20°C ~ 55°C
Heating	Smart Module Heating	Smart Module Heating
Cooling	Radiation Cooling	Radiation Cooling
Thermal Insulation	Thermal Shield (Optional)	Thermal Shield (Optional)
Humidity Range	5 ~ 90%	5 ~ 90%
CERTIFICATION		
Safety	CE, UKCA, IEC62619, UL1973	CE, UKCA, IEC62619, UL1973
Transportation	UN38.3	UN38.3

WARRANTY

10 years



Thermal Shield



HIGH VOLTAGE LI-ION HOME BATTERY

Easy Installation

Easy Snap-On installation, ultra-thin profile (196.5mm)

Flexible Capacity from 10 – 30 kWh

Stack on modules, allowing easy expansion on storage capacity.



The First Home Energy Storage Battery with Fire Extinguisher Integrated



LFP - Proven Safe Battery Chemistry



-20°C Cold Climate Outdoor & Indoor Installation



Electric Vehicle Grade Battery Module Design



Auto-active Heating for Cold Climate Usage



Radiation Cooling for Hot Climate Usage

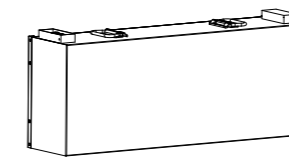


MODULE

GENERAL		ELECTRICAL	
Battery Type	M5P5 LFP	Nominal Energy	5.1 kWh
Number of Modules	1	Nominal DC Voltage	102.4 V
Dimension (DxWxH)	196.5*800*315 mm	Max.Power	5.1 kW
Weight	55 kg	Max. Current	50A
Ingress Rating	IP65	Voltage Range	80 ~ 116.8 V

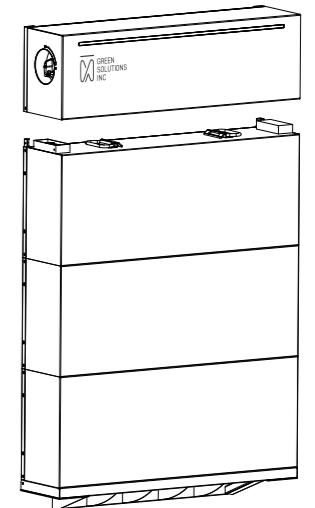
Single battery pack

196.5*800*315 mm



Assembled battery

196.5*800*315 mm*N



STACK

GENERAL	EH10	EH15	EH20	EH25	EH30
Battery Type	LFP				
Number of Modules	2	3	4	5	6
Dimension (D*W*H)	196.5*800*902mm	196.5*800*1217mm	196.5*800*1532mm	196.5*800*1847mm	196.5*800*2162mm
Weight	130.4 kg	185.4 kg	240.4 kg	295.4 kg	350.4 kg
Ingress Rating	IP65				

ELECTRICAL					
Nominal Energy	10.2 kWh	15.3 kWh	20.4 kWh	25.6 kWh	30.7 kWh
Nominal DC Voltage	204.8 V	307.2 V	409.6 V	512.0 V	614.4 V
Max. Power	10.2 kWh	15.3 kWh	20.4 kWh	25.6 kWh	30.7 kWh
Max. Current	50 A				
Voltage Range	160.0 ~ 233.6 V	240.0 ~ 350.4 V	320.0 ~ 467.2 V	400.0 ~ 584.0 V	480.0 ~ 700.8 V
DC Efficiency	95.4%				

OPERATION	
Temperature Range	-20 °C ~ 55 °C
Humidity Range	5 ~ 90%

OTHER	
Energy Expansion	Stackable Up to 6 Modules
Communication	CAN and RS485

CERTIFICATION	
Safety	IEC62619, UL1973
Transportation	UN38.3

COMMERCIAL & INDUSTRIAL ENERGY STORAGE SYSTEM



Rich Features

Supports rich features, including emergency power backup, energy arbitrage, virtual power plant, demand side response, electricity spot trading



Easy to Install

Modular design, easy to install and operate



Intelligent Control

Cloud-based remote control with multi-level control architecture from PCS to battery cell monitoring and control



Flexible Energy and Power Expansion

Supports parallel connection of multiple E215 ESS to meet different power and energy expansion needs



High Adaptability

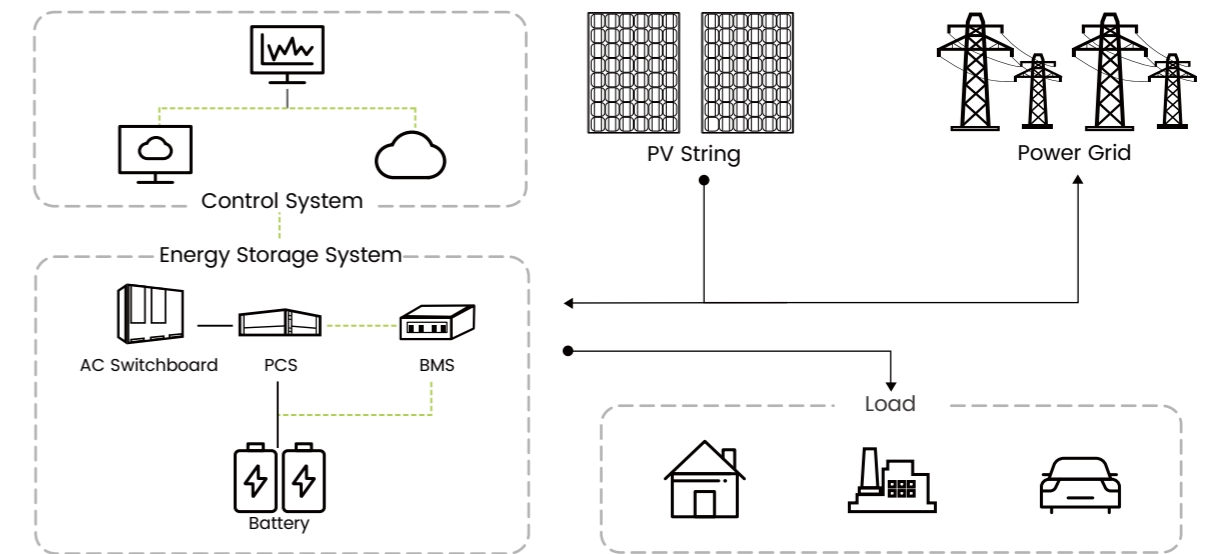
Easy to adapt with any AC renewable energy sources and AC loads



Reliable and Safe

LFP battery with active thermal control to ensure system reliability, safety, and long service life

APPLICATION ILLUSTRATIONS



PRODUCT PARAMETERS

Single Cabinet Capacity	215kWh
Battery Cell Spec	3.2V-280Ah-896Wh
DC Voltage Range	648-876Vdc
Charge And Discharge Rate	0.5P
Cycle Life	≥6000 (@25°C, 0.5P, 90%DOD, 80%EOL)
BMS	Multi-Level Architecture Integration
Communication Interface	Ethernet/RS485/CAN
Temperature Control Solution	Intelligent Frequency Conversion Air Cooling
Fire Protection Plan	Smoke/Temperature Detection + Perfluorohexanone
Rated AC Voltage	400Vac/3W+N+PE(50Hz)
Rated AC Power	100kW
Maximum AC Current	158A
Maximum Output Power	110kVA
Altitude	≤5000m (>2000m Derating)
Allowable Ambient Temperature	-20°C~40°C
Allowable Relative Humidity	0~95%Rh (No Condensation)
Protection Grade	IP55
Dimension (W*H*D)	1050*2500*1200mm
Total Weight	≤2000kg

AC COMBINER CABINET



Modular Design

Each Combiner Cabinet supports up-to 4x 215kWh energy storage cabinets



High Current Withstand

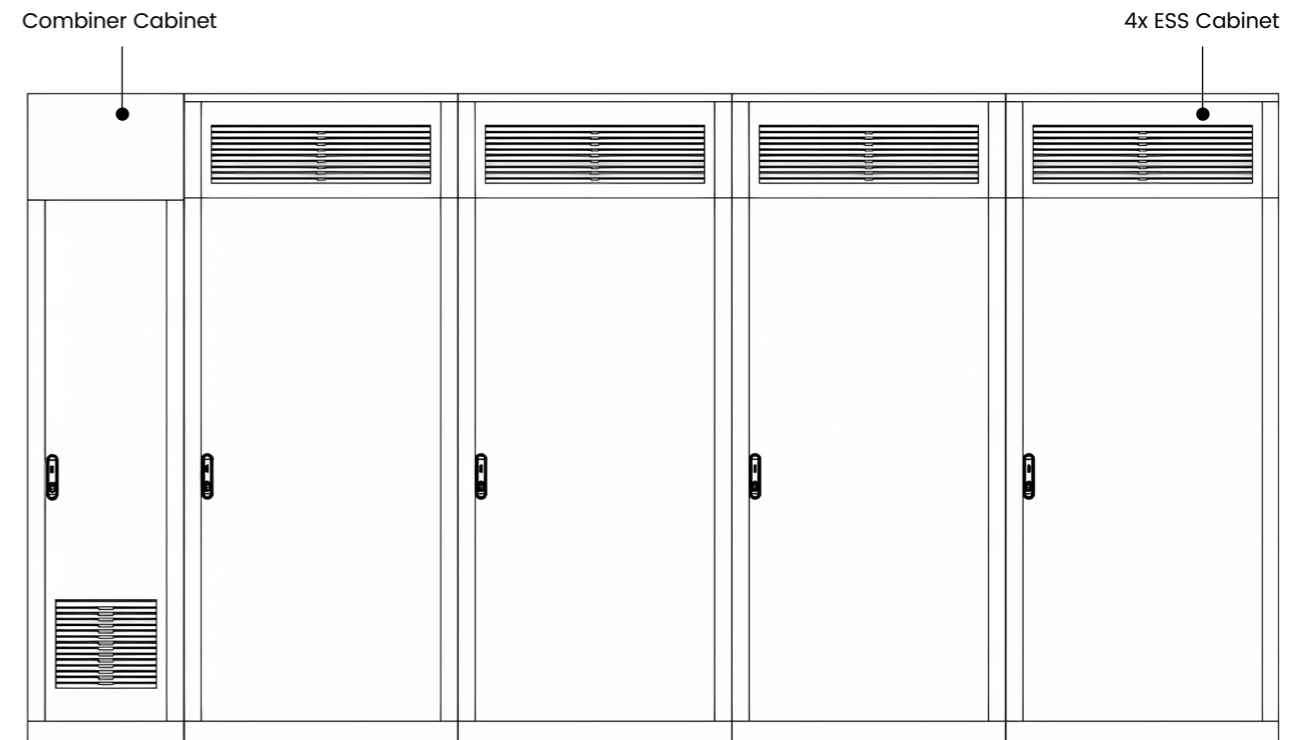
Rated for 800A AC current



Easy Cable Connection

Easy power cables access, which enters the Combiner Cabinet from the bottom and exits from the top

APPLICATION ILLUSTRATIONS



860kWh 400kW Energy Storage Solution

PRODUCT PARAMETERS

Rated Output Voltage	400V/ 3W+N+PE
Rated Output Current	800A
Rated Frequency	50/60Hz
Rated Input Current	200A per input channel
Number of Input Channels	4 channels((4x ESS are combined into 1x 800A switch))
Weight	≤400kg
Protection Grade	IP55
Dimension(W*H*D)	600*2500*980mm

Balcony Solar System

Reduces consumption of paid electricity and reduces electricity bills.

The Balcony Solar System is a simple plug-and-play solution, a simple and compact photovoltaic system. The scope of delivery includes solar modules and micro-inverter which can be mounted on balcony, roof or floor and feed power into its own home by plugging into a standard Schuko socket AC7-7 connection cord network. This reduces consumption of paid electricity and reduces electricity bills.

-  **ALL-IN-1**
-  **ULTRA-LIGHT**
-  **PLUG AND PLAY**
-  **EASY TO INSTALL**
-  **WATERPROOF RATING**
-  **EXTREMELY WEATHER RESISTANT**



ELECTRICAL CHARACTERISTICS AT STANDARD TEST CONDITIONS(STC)

Max-Power (Pm)	425W
Power Tolerance	±5%
Max-Power Voltage (Vm)	41.4V
Max-Power Current (Im)	10.3A
Open-Circuit Voltage (Voc)	49.2V
Short-Circuit Current (Isc)	10.76A
Module Efficiency	19.30%

MECHANICAL CHARACTERISTICS

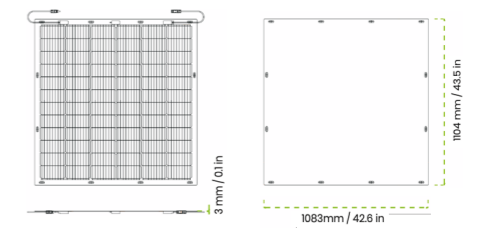
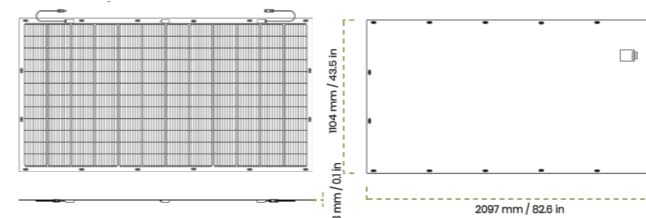
Dimension (L*W*D)	2097*1104*3mm
Weight	7.5Kg
Frame	Frameless
Backsheet Color	White
Junction Box	IP67
Cable	Customized/4mm ²
Connector	MC4 Compatible

ELECTRICAL CHARACTERISTICS AT STANDARD TEST CONDITIONS(STC)

Max-Power (Pm)	210W
Power Tolerance	±5%
Max-Power Voltage (Vm)	41.4V
Max-Power Current (Im)	5.07A
Open-Circuit Voltage (Voc)	49.2V
Short-Circuit Current (Isc)	5.36A
Module Efficiency	19.30%

MECHANICAL CHARACTERISTICS

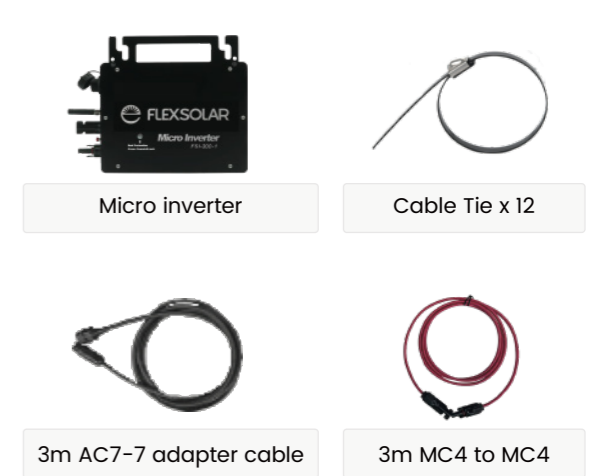
Dimension (L*W*D)	1083*1104*3mm
Weight	3.8Kg
Frame	Frameless
Backsheet Color	White
Junction Box	IP67
Cable	Customized/4mm ²
Connector	MC4 Compatible



MICRO INVERTER-400W/800W

Size (L x W x H)	
400W	165*176*38mm
800W	283*200*41.6mm
Weight	
400W	0.82Kg
800W	1.56Kg
Certificate	
EN IEC61000-3-2: 2019+A1: 2021 EN 61000-3-3:2013+A1: 2019+A2: 2021, EN IEC55014-2: 2021, EN IEC 55014-2: 202	
warranty	5 years

ACCESSORIES



EV CHARGERS

7/11/22 kW Single or Three Phase AC EV Charger

Dynamic Load Balancing

Safely balance the electricity usage between the EV charger and other home appliances to prevent overload.

Easy Installation with Different Color Selection

Wall-mount or pole-mount are available for selection. Six colors are available for selection: White, Purple, Blue, Black, Orange and Green.

Innovative



- Temper glass panel, modern design
- WiFi Mesh technique, saves cost on installation

Intelligent



- Wireless communication (Wi-Fi/Bluetooth), Ethernet/4G optional
- OCPP communication protocol with CMS
- Intelligent operation by App

Secure and Safe

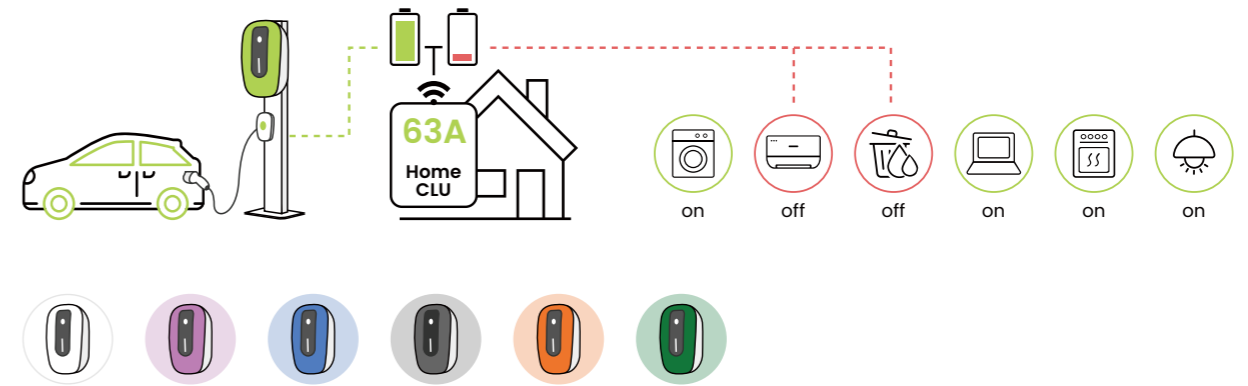


- RCD Type A and 6mA DC residual current protection
- MID certified energy meter with accurate measurement

Flexible



- Universal Type 2 socket, optional with Type 1/Type 2 charging cable
- RFID authentication or plug and play
- Wall-mount or floor -stand installation



Datasheet	Model	GS7-AC-B01	GS11-AC-B01	GS22-AC-B01
Power Output	Power Supply	1P+N+PE	3P+N+PE	3P+N+PE
	Rated Voltage	230V AC	400V AC	400V AC
	Rated Current	32A	16A	32A
	Frequency	50/60Hz	50/60Hz	50/60Hz
	Rated Power	7kw	11kw	22kw
User Interface	Charging Port	Type 2 Cable		
	Cable Length	3.5/4/5m		
	LCD Display	4.3" color touch LCD		
Safety	Emergency Stop	Yes		
	RCD	30mA Type A+6mA DC		
	Ingress Protection	IP65		
	Impact Protection	IK10		
	Electrical Protection	Over current protection, Residential current protection, Short circuit protection, Ground protection, Surge protection, Over/Under voltage protection, Over/under frequency protection, Over/under temperature protection		
Certification Standard	EN/IEC61851-1:2017, EN/IEC 61851-21-2:2018			
Package	Installation	Wall-mount/Pole-mount		
	Work Temperature	-25 to 50°C		
	Work Humidity	5% to 95%		
	Work Atitude	<2000M		
	Product Dimension	340*285*147mm (H*W*D)		
Net Weight	3.8kg	4.5kg	4.5kg	