

2022 CATALOGUE

MPPT / PWM
Solar Charge Controller



Charge Pro 2.0



Google Play Store



IOS APP Store

Helios New Energy Co., Ltd

☎ 0755-2960 1174 ✉ info@helios-ne.com 🌐 www.helios-ne.com

📍 B511, No 6095 Bao'an Blvd, Fuhai, Bao'an District, Shenzhen 518000, China

SOLAR & GREEN FOR LIFE

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DS/BM



COMPANY INTRODUCTION

Helios New Energy Co., Ltd is a high tech enterprise for R&D, manufacture, and marketing of solar products, mainly focus on areas of solar DC charge & lighting, and other PV energy storage applications. Our company has been well experienced in technology of solar DC charge, especially on PWM & MPPT solar charge controllers. We've put our unique concept in R&D work for solar controller products that are widely used in solar stand alone power system, solar telecommunication power station, solar RV power system, and other kinds of power system required solar DC charge source.

Other than solar charge controller, we also have much connections with products in other solar DC area, like solar flexible panels/bags (assembly with mono cells and Sun Power cells), lithium battery packs with solar charge controller integrated, and all-in-one solar lights.

Helios NE never stop moving forward in the progress of research & development of solar DC technology. We will always keep pace with the latest technical trend in the world, and try to improve our products all the time. The quality is the life of Helios company, and our aim is to provide the world with the best solar DC products, along with the best service to our customers.

Solar & Green for Life!

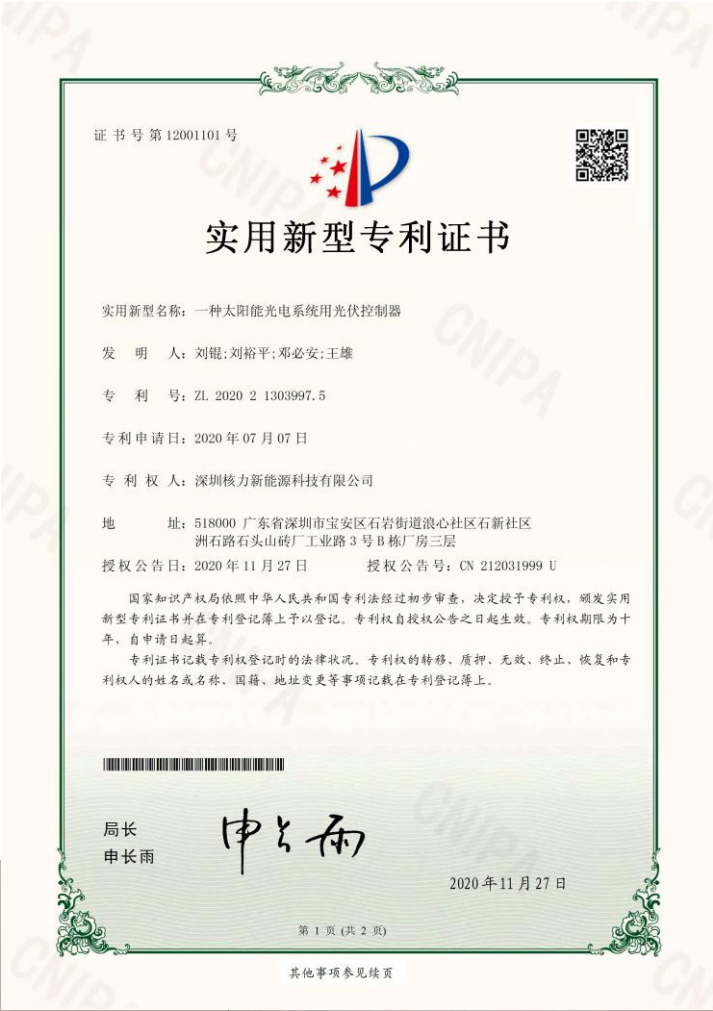
Office Area



Factory Area



Patents & Certificates



MPPT Solar Charge Controller

MS2420N
MS2430N
MS2440N
MS4820N
MS4830N
MS4840N

MPPT Solar Charge Controller - BT APP
Negative Grounded Model / Touch Screen Operation



Key Figures

- Aluminum casing + tempered glass cover
- Touch screen operation
- Battery system auto recognition
- 100Voc / 150Voc max PV input voltage
- 20A / 30A / 40A max charge current
- 300 days max data logging
- Negative grounded design
- Inbuilt BT module for APP operation

MS is a series of controllers with the most advanced MPPT technology, mainly used in medium size solar stand alone power system. MS supports solar charge only, for battery system 12/24/36/48V. It is negative grounded design, and with Bluetooth module built inside for APP monitoring and operation in mobile phone.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- Aluminum casing for better cooling and charge function in high temperature
- Tempered glass cover, touch screen button for better operation
- Polyurethane filled inside for better cooling and waterproof
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

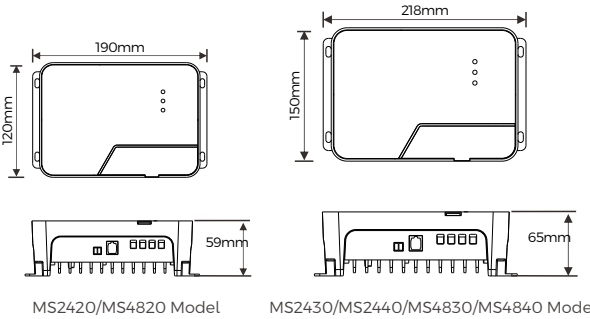
Reliable Electronic Protections

- Advanced protections for battery charge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

Extensive Device Functions

- RS485 port for Modbus communication
- External port for multiple devices parallel use
- External Bluetooth module connection for APP operation
- External remote LCD display connection

Controller Parameter				Value		
Model No.	MS2420N	MS2430N	MS2440N	MS4820N	MS4830N	MS4840N
System Wiring Grounded	Negative Grounded					
Battery System Voltage	12V/24V Auto(FLD/GEL/SLD) Manual (Li/User)			12/24/36/48V Auto(FLD/GEL/SLD) Manual (Li/User)		
No-load Loss	12mA/12V ; 10mA/24V			12mA/12V;10mA/24V;8mA/36V;6mA/48V		
Max Solar Input Voltage	<100Voc			<150Voc		
Rated Solar Charge Current	20A	30A	40A	20A	30A	40A
Max Solar Input Power	300W/12V 600W/24V	450W/12V 900W/24V	600W/12V 1200W/24V	300W/12V 600W/24V 900W/36V 1200W/48V	450W/12V 900W/24V 1350W/36V 1800W/48V	600W/12V 1200W/24V 1800W/36V 2400W/48V
Operating Temperature	-35°C ~ +45°C					
IP Protection	IP34					
Net Weight	1.0 kg	2.0 kg	2.0 kg	1.1 kg	2.1 kg	2.1 kg
Communication Port	RS485+Bluetooth(APP)					
Operating Altitude	≤ 3000 meters					
Controller Dimension	190*120*59mm	218*150*65mm		190*120*59mm	218*150*65mm	
Battery Voltages	Battery Parameters					
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)	
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—	
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n	
Float Charge Voltage	13.8V*n			Default: GEL	—	
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—	
Over-discharge Recovery Voltage	—			—	—	
Over-discharge Voltage	—			—	—	
Auto Temperature Compensation	-3mV/2V/°C			Default: GEL	—	
Accessory List	Package Status					
External Temperature Sensor	Yes					
Remote LCD Meter	Optional					
Bluetooth Module	Yes/Inbuilt					
Parallel Charge Use Cable	Optional					
Installation Guidance Paper	Yes					
User Manual	Yes					



Accessories

App



Charge Pro 2.0

MPPT
RV
Solar
Charge
Controller
...
M2430C

MPPT RV Solar Charge Controller
Negative Grounded Model / Touch Screen Operation / BT APP



- Key Figures**
- Aluminum casing + tempered glass cover
 - Flush Mount + Touch screen operation
 - 12/24V battery system auto recognition
 - 100Voc max PV input voltage
 - MPPT 30A max charge current
 - 300 days max data logging
 - Negative grounded design for RV use
 - Inbuilt BT module for APP operation

M2430C is a MPPT solar charge controller with flush mount design for solar DC power system in RV or other similar applications. It is negative grounded design, and with Bluetooth module built inside for APP monitoring and operation in mobile phone.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- Aluminum casing for better cooling and charge function in high temperature
- Tempered glass cover, touch screen button for better operation
- Polyurethane filled inside for better cooling and waterproof
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

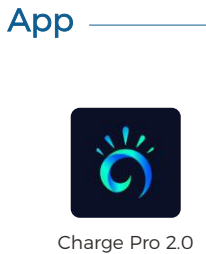
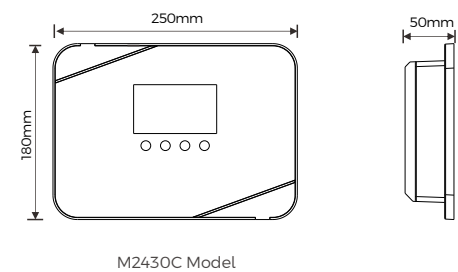
Reliable Electronic Protections

- Advanced protections for battery charge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

Extensive Device Functions

- RS485 port for Modbus communication
- External Bluetooth module connection for APP operation
- External remote LCD display connection

Controller Parameter	Value				
Model No.	M2430C				
System Wiring Grounded	Negative Grounded				
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li/User)				
No-load Loss	12ma/ 12V; 10ma/24V;				
Max Solar Input Voltage	<100Voc				
Rated Solar Charge Current	30A				
Max Solar Input Power	450W/12V;900W/24V;				
Operating Temperature	-35°C ~ +45°C				
IP Protection	IP34				
Net Weight	2.2 kg				
Communication Port	RS485+Bluetooth(APP)				
Operating Altitude	≤ 3000 meters				
Controller Dimension	250*180*50mm				
Battery Voltages		Battery Parameters			
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	—			—	—
Over-discharge Voltage	—			—	—
Auto Temperature Compensation	-3mV/2V/°C			Default: GEL	—
Accessory List		Package Status			
External Temperature Sensor		Yes			
Remote LCD Meter		Optional			
Bluetooth Module		Yes/Inbuilt			
Parallel Charge Use Cable		Optional			
Installation Guidance Paper		Yes			
User Manual		Yes			



MPPT
Solar
Charge
Controller
...
M2420
M2430
M2440



MPPT Solar Charge Controller



Key Figures

- 12/24V battery system auto recognition
- 100Voc max PV input voltage
- 20A / 30A / 40A max charge current
- 1.2KW max PV input power
- 300 days max data logging
- 0.3W max self power consumption

M series is a type of solar controller with advanced Maximum Power Point Tracking (MPPT) technology, mainly designed for small & medium size solar stand alone power systems. This series of controllers are typical type of MPPT controller, widely used all around the world.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- No cooling fan; over rating size heating sink
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display; key operation for parameter settings
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

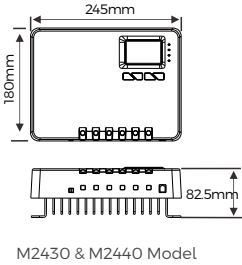
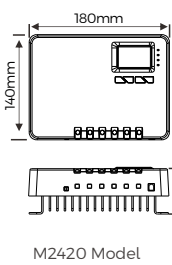
Reliable Electronic Protections

- Advanced protections for battery charge & discharge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

Extensive Device Functions

- RS485 port for Modbus communication
- Extra 20A DC load output control with various of load modes
- External Bluetooth module connection for APP operation
- External remote LCD display connection

Controller Parameter	Value				
Model No.	M2420		M2430		M2440
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li/User)				
No-load Loss	12mA/12V ; 10mA/24V				
Max Solar Input Voltage	<100Voc				
Rated Solar Charge Current	20A		30A		40A
Max Solar Input Power	300W/12V;600W/24V		450W/12V;900W/24V		600W/12V;1200W/24V
Light Control Voltage	5V*n				
Light Control Delay Time	10s				
Max Load Output Current	20A				
Operating Temperature	-35℃ ~ +45℃				
IP Protection	IP32				
Net Weight	1.0 kg		2.0 kg		2.0kg
Communication Port	RS485				
Operating Altitude	≤ 3000 meters				
Controller Dimension	180*140*71mm		245*180*82.5mm		245*180*82.5mm
Battery Voltages	Battery Parameters				
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	12.6V*n			Default: GEL	—
Over-discharge Voltage	11.1V*n			Default: GEL	Default: 11.1V*n
Auto Temperature Compensation	-3mV/2V/℃			Default: GEL	—
Accessory List	Package Status				
External Temperature Sensor	Yes				
Remote LCD Meter	Optional				
Bluetooth Module	Optional				
Parallel Charge Use Cable	Optional				
Installation Guidance Paper	Yes				
User Manual	Yes				



Accessories



App



Charge Pro 2.0

MPPT
Solar
Charge
Controller
...
M4860

MPPT Solar Charge Controller



CE RoHS IEC62509:2010

M4860 is a solar controller with advanced Maximum Power Point Tracking (MPPT) technology, mainly used in small & medium size solar stand alone power system, up to 3.2KW.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- No cooling fan; over rating size heating sink
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display; key operation for parameter settings
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

Reliable Electronic Protections

- Advanced protections for battery charge & discharge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

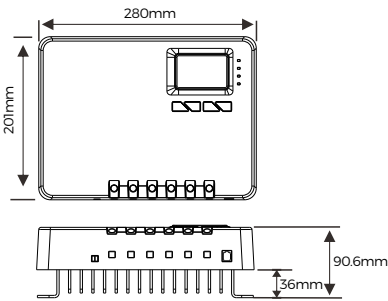
Extensive Device Functions

- RS485 port for Modbus communication
- External port for multiple devices parallel use
- Extra 20A DC load output control with various of load modes
- External Bluetooth module connection for APP operation
- External remote LCD display connection

Key Figures

- 12/24/36/48 V battery system auto recognition
- 150Voc max PV input voltage
- 60A max charge current
- 3.2KW max PV input power
- 300 days max data logging
- 0.3W max self power consumption

Controller Parameter	Value				
Model No.	M4860				
Battery System Voltage	12V/24V/36V/48V Auto (FLD/GEL/SLD) Manual (Li/User)				
No-load Loss	12ma/12V; 10ma/24V; 8ma/36V; 6ma/48V				
Max Solar Input Voltage	<150Voc				
Rated Solar Charge Current	60A				
Max Solar Input Power	900W/12V;1800W/24V;2600W/36V;3200W/48V				
Light Control Voltage	5V*n				
Light Control Delay Time	10s				
Max Load Output Current	20A				
Operating Temperature	-35°C ~ +45°C				
IP Protection	IP32				
Net Weight	3.0 kg				
Communication Port	RS485				
Operating Altitude	≤ 3000 meters				
Controller Dimension	280*210*90mm				
Battery Voltages		Battery Parameters			
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	12.6V*n			Default: GEL	—
Over-discharge Voltage	11.1V*n			Default: GEL	Default: 11.1V*n
Auto Temperature Compensation	-3mV/2V/°C			Default: GEL	—
Accessory List		Package Status			
External Temperature Sensor		Yes			
Remote LCD Meter		Optional			
Bluetooth Module		Optional			
Parallel Charge Use Cable		Optional			
Installation Guidance Paper		Yes			
User Manual		Yes			



Accessories



App



Charge Pro 2.0

MPPT
Solar
Charge
Controller
...
M2420N
M2430N
M2440N

MPPT Solar Charge Controller - BT APP
Negative Grounded Model



CE RoHS



Key Figures

- 12/24V battery system auto recognition
- 100Voc max PV input voltage
- 20A / 30A / 40A max charge current
- 1.2KW max PV input power
- 300 days max data logging
- 0.3W max self power consumption
- Negative grounded design
- Inbuilt BT module for APP operation

M series is a type of solar controller with advanced Maximum Power Point Tracking (MPPT) technology, mainly designed for small & medium size solar stand alone power systems up to 1.2KW. Additionally, it's a negative grounded model, meets the electrical wiring standard that is widely required in solar power system in North America.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- No cooling fan; over rating size heating sink
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display; key operation for parameter settings
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

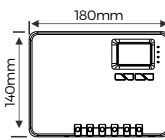
Reliable Electronic Protections

- Advanced protections for battery charge & discharge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

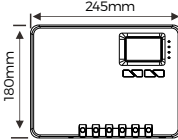
Extensive Device Functions

- RS485 port for Modbus communication
- Extra 20A DC load output control with various of load modes
- Inbuilt Bluetooth module for APP operation
- External remote LCD display connection

Controller Parameter	Value				
Model No.	M2420N		M2430N		M2440N
System Wiring Grounded	Negative Grounded				
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li/User)				
No-load Loss	12ma/12V; 10ma/24V				
Max Solar Input Voltage	<100Voc				
Rated Solar Charge Current	20A		30A		40A
Max Solar Input Power	300W/12V;600W/24V	450W/12V;900W/24V		600W/12V;1200W/24V	
Light Control Voltage	5V*n				
Light Control Delay Time	10s				
Max Load Output Current	20A				
Operating Temperature	-35°C ~ +45°C				
IP Protection	IP32				
Net Weight	1.0 kg		2.0 kg		2.0kg
Communication Port	RS485+Bluetooth(APP)				
Operating Altitude	≤ 3000 meters				
Controller Dimension	180*140*71mm		245*180*82.5mm		245*180*82.5mm
Battery Voltages	Battery Parameters				
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	12.6V*n			Default: GEL	—
Over-discharge Voltage	11.1V*n			Default: GEL	Default: 11.1V*n
Auto Temperature Compensation	-3mV/2V/°C			Default: GEL	—
Accessory List	Package Status				
External Temperature Sensor	Yes				
Remote LCD Meter	Optional				
Bluetooth Module	Yes / Inbuilt				
Parallel Charge Use Cable	Optional				
Installation Guidance Paper	Yes				
User Manual	Yes				



M2420N Model



M2430N & M2440N Model

Accessories



App



Charge Pro 2.0

MPPT
Solar
Charge
Controller
...
M4860N

MPPT Solar Charge Controller - BT APP
Negative Grounded Model



CE RoHS IEC62509:2010

Key Figures

- 12/24/36/48V battery system auto recognition
- 150Voc max PV input voltage
- 60A max charge current
- 3.2KW max PV input power
- 300 days max data logging
- 0.3W max self power consumption
- Negative grounded design
- Inbuilt BT module for APP operation

M4860N is a solar controller with advanced Maximum Power Point Tracking (MPPT) technology, mainly used in small & medium size solar stand alone power systems up to 3.2KW. Additionally, it's a negative grounded model, meets the electrical wiring standard that is widely required in solar power system in North America.

Advanced Maximum Power Point Tracking (MPPT) Technology

- Fast MPPT start with ultra fast of sweeping of the entire V-I curve
- Smart MPPT algorithm ensures a better tracking in multiple power points
- High PV harvest performance in weak sunlight conditions
- Excellent peak efficiency exceeds 98%

High Quality & Functions

- No cooling fan; over rating size heating sink
- Over rating electronic components to minimize the power loss from heating
- Full charge power output up to 45°C
- Compensates battery charge voltages with use of temperature sensor
- LCD screen display; key operation for parameter settings
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable

Reliable Electronic Protections

- Advanced protections for battery charge & discharge
- Over-heating protection by power derating if temperature is high
- Allow max 25% exceeding rated power without controller damage
- Extensive protections including PV reverse polarity & reverse current protection

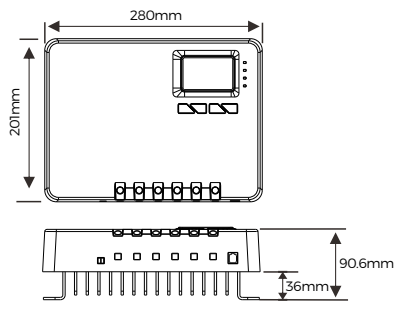
Extensive Device Functions

- RS485 port for Modbus communication
- External port for multiple devices parallel use
- Extra 20A DC load output control with various of load modes
- Inbuilt Bluetooth module for APP operation
- External remote LCD display connection

Controller Parameter	Value
Model No.	M4860N
System Wiring Grounded	Negative Grounded
Battery System Voltage	12V/24V/36V/48V Auto (FLD/GEL/SLD) Manual (Li/User)
No-load Loss	12ma/12V; 10ma/24V; 8ma/36V; 6ma/48V
Max Solar Input Voltage	<150Voc
Rated Solar Charge Current	60A
Max Solar Input Power	900W/12V;1800W/24V;2600W/36V;3200W/48V
Light Control Voltage	5V*n
Light Control Delay Time	10s
Max Load Output Current	20A
Operating Temperature	-35°C ~ +45°C
IP Protection	IP32
Net Weight	3.0 kg
Communication Port	RS485+Bluetooth(APP)
Operating Altitude	≤ 3000 meters
Controller Dimension	280*210*90mm

Battery Voltages	Battery Parameters				
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	12.6V*n			Default: GEL	—
Over-discharge Voltage	11.1V*n			Default: GEL	Default: 11.1V*n
Auto Temperature Compensation	-3mV/2V/°C			Default: GEL	—

Accessory List	Package Status
External Temperature Sensor	Yes
Remote LCD Meter	Optional
Bluetooth Module	Yes / Inbuilt
Parallel Charge Use Cable	Optional
Installation Guidance Paper	Yes
User Manual	Yes



Accessories



App



Charge Pro 2.0

PWM
Solar
Charge
Controller
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P2410
P2420

PWM Solar Charge Controller

12/24V Auto Recognition 10A/20A



P2410 / P2420 is a solar charge controller with advanced Pulse Width Management (PWM) 3-phase charge technology, for small size solar stand alone power system. It is a basic and typical solar controller model, widely used all around the world, with various kinds of uses.

Key Figures

- Full range of electronic protections
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable
- LCD display & key operation for parameter settings
- Multiple MOSFET & optimized PCBA design for better cooling effect

Extensive Functions

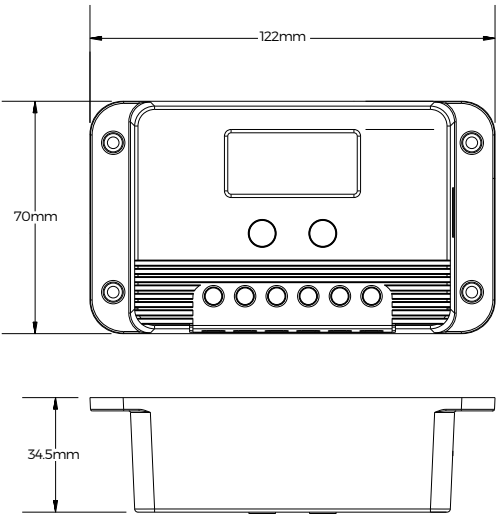
- Li mode use for lithium battery charge & discharge
- Up to 17 kinds of DC load output control, including “dusk to dawn” & manual switch
- Extra USB 5V 1A DC output
- One more year of warranty than other similar models in the market

Solar Charge Bag Specialist



Controller Parameter	Value	
Model No.	P2410	P2420
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li)	
No-load Loss	12ma/ 12V; 10ma/24V	
Max Solar Input Voltage	<55Voc	
Rated Solar Charge Current	10A	20A
Max Solar Input Power	170W/12V;340W/24V	340W/12V;680W/24V
Light Control Voltage	5V*n	
Light Control Delay Time	10s	
Max Load Output Current	10A	20A
Operating Temperature	-35°C ~ +45°C	
IP Protection	IP32	
Net Weight	0.2 kg	
USB Output	5V 1A	
Operating Altitude	≤ 3000 meters	
Controller Dimension	122*70*34.5mm	

Battery Voltages	Battery Parameters				
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage		13.8V*n		Default: GEL	—
Boost Charge Recovery Voltage		13.2V*n		Default: GEL	—
Over-discharge Recovery Voltage		12.6V*n		Default: GEL	—
Over-discharge Voltage		11.1V*n		Default: GEL	Default: 11.1V*n



Application scenarios



PWM
Solar
Charge
Controller
...
P2410C
P2420C

PWM Solar Charge Controller Flush Mount & Flat Fixture

12/24V Auto Recognition 10A/20A



P2410C / P2420C is a solar charge controller with advanced Pulse Width Management (PWM) 3-phase charge technology, for small size solar stand alone power system.

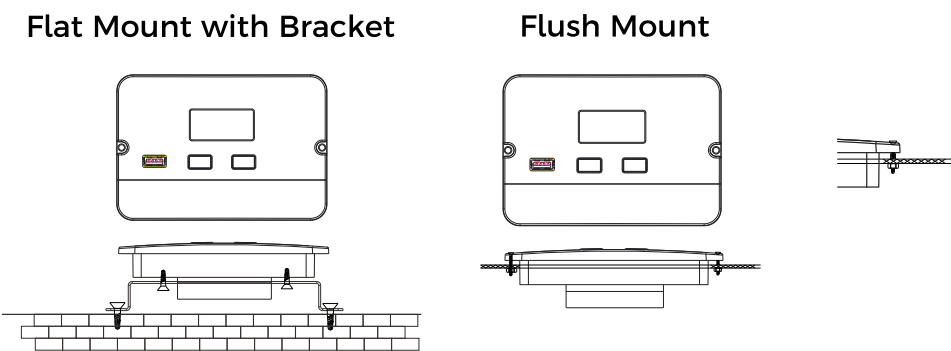
With an additional mounting bracket, we offer 2 ways of installations for this controller, flat fixture on the work desk or wall, and flush mount for system cabinet or RV/caravans.

Key Figures

- Flush mount fixture for cabinet or RV installation.
- Full range of electronic protections
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable
- LCD display & key operation for parameter settings
- Multiple MOSFET & optimized PCBA design for better cooling effect

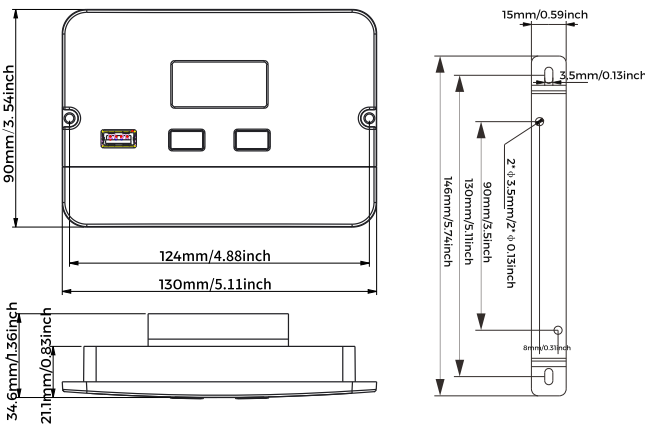
Extensive Functions

- Li mode use for lithium battery charge & discharge
- Up to 17 kinds of DC load output control, including “dusk to dawn” & manual switch
- Extra USB 5V 1A DC output
- One more year of warranty than other similar models in the market



Controller Parameter	Value			
Model No.	P2410C		P2420C	
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li)			
No-load Loss	12ma/ 12V; 10ma/24V			
Max Solar Input Voltage	<55Voc			
Rated Solar Charge Current	10A		20A	
Max Solar Input Power	170W/12V;340W/24V		340W/12V;680W/24V	
Light Control Voltage	5V*n			
Light Control Delay Time	10s			
Max Load Output Current	10A		20A	
USB Output	5V 1A			
Operating Temperature	-35°C ~ +45°C			
IP Protection	IP32			
Net Weight	0.2 kg			
Operating Altitude	≤ 3000 meters			
Controller Dimension	139*90*34.5mm			
Battery Voltages	Battery Parameters			
Battery Types	FLD	SEL	GEL (default)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: 14.2V*n
Float Charge Voltage	13.8V*n		—	
Boost Charge Recovery Voltage	13.2V*n		—	
Over-discharge Recovery Voltage	12.6V*n		—	
Over-discharge Voltage	11.1V*n		Default: 11.1V*n	
Accessory List	Package Status			
Extra Mounting Bracket	Yes			
User Manual	Yes			

Application scenarios



PWM
Solar
Charge
Controller
...
P2430C

PWM Solar Charge Controller
Flush Mount & Negative Grounded Model

12/24V Auto Recognition 30A



P2430C is a flush mount type solar charge controller with advanced Pulse Width Management (PWM) 3-phase charge technology, mainly for solar power system in RV/caravan or similar applications. It is a negative grounded model, suitable for systems with PCBA wiring negative grounded (mainly required in North America).

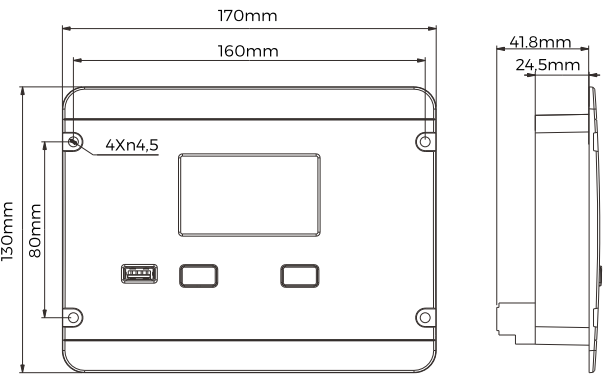
Key Figures

- Flush mount fixture for RV/caravan or system cabinet installation
- PCB wiring negative grounded design
- Full range of electronic protections
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable
- LCD display & key operation for parameter settings
- Multiple MOSFET & optimized heating sink for better cooling effect
- Only for battery charge regulation

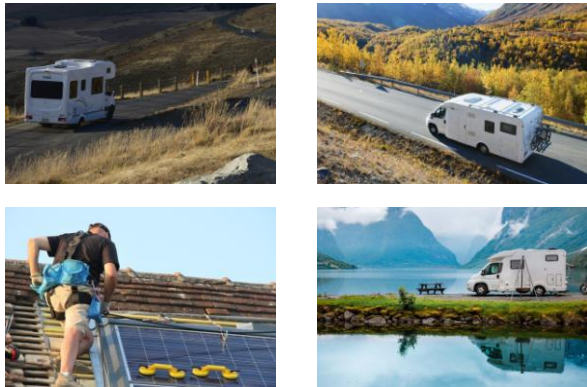
Extensive Functions

- Li mode use for lithium battery charge
- Extra USB 5V 1A DC output
- One more year of warranty than most of other PWM controllers

Controller Parameter	Value			
Model No.	P2430C			
System Wiring Grounded	Negative Grounded			
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li)			
No-load Loss	8ma/ 12V; 12ma/24V			
Max Solar Input Voltage	<55Voc			
Rated Solar Charge Current	30A			
Max Solar Input Power	450W/12V;900W/24V			
USB Output	5V 1A			
Operating Temperature	-35°C ~ +45°C			
IP Protection	IP32			
Net Weight	0.35kg			
Operating Altitude	≤ 3000 meters			
Controller Dimension	170*130*48mm			
Battery Voltages		Battery Parameters		
Battery Types	FLD	SEL	GEL (default)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: 14.2V*n
Float Charge Voltage	13.8V*n			—
Boost Charge Recovery Voltage	13.2V*n			—
Over-discharge Recovery Voltage	—			—
Over-discharge Voltage	—			—



Application scenarios



PWM
Solar
Charge
Controller
...
P2430N
P2440N

PWM Solar Charge Controller - BT APP Negative Grounded Model

12/24V Auto Recognition 30A/40A



APP Operation

P2430N / P2440N is a solar charge controller with advanced Pulse Width Management (PWM) 3-phase charge technology, widely used in various kinds of solar stand alone power systems up to 1.2KW. With in-built Bluetooth module, we can use mobile phone APP to monitor and operate this controller. Additionally, it's a negative grounded model, suitable for power systems that requires a negative grounded wiring work.

Key Figures

- Bluetooth APP operation available
- PCB wiring negative grounded design
- Full range of electronic protections
- Lead-acid AGM/GEL/Flooded & Lithium batteries supportable
- LCD display & key operation for parameter settings
- Ultra cooling system with over rating heating sink & multiple MOSFET design

Extensive Functions

- Li mode use for lithium battery charge & discharge
- User mode available allows customized settings for different batteries
- Up to 17 kinds of DC load output control, including "dusk to dawn" & manual switch
- Extra USB 5V 1A DC output
- One more year of warranty than other similar models in the market

App



Charge Pro 2.0

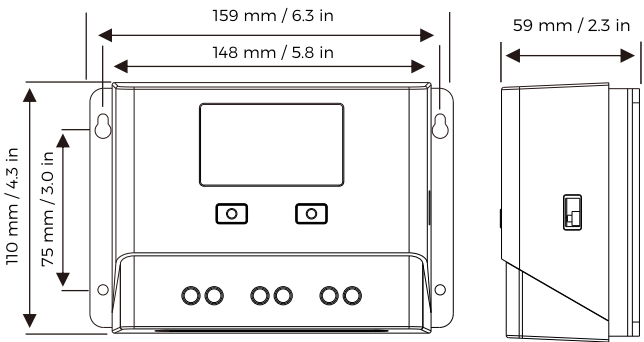


Google Play Store



IOS APP Store

Controller Parameter	Value				
Model No.	P2430N			P2440N	
System Wiring Grounded	Negative Grounded				
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li)				
No-load Loss	8ma/12V; 12ma/24V				
Max Solar Input Voltage	<55Voc				
Rated Solar Charge Current	30A			40A	
Max Solar Input Power	450W/12V;900W/24V			600W/12V;1200W/24V	
Light Control Voltage	5V*n				
Light Control Delay Time	10s				
Max Load Output Current	30A			40A	
USB Output	5V 1A				
Operating Temperature	-35°C ~ +45°C				
IP Protection	IP32				
Net Weight	0.65kg				
Communication	Built-in Bluetooth Module				
Operating Altitude	≤ 3000 meters				
Controller Dimension	159*118*59mm				
Battery Voltages	Battery Parameters				
Battery Types	FLD	SEL	GEL (default)	USER (adjustable)	LI (adjustable)
Equalize Charge Voltage	14.8V*n	14.6V*n	—	Default	—
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	Default: GEL	Default: 14.2V*n
Float Charge Voltage	13.8V*n			Default: GEL	—
Boost Charge Recovery Voltage	13.2V*n			Default: GEL	—
Over-discharge Recovery Voltage	12.6V*n			Default: GEL	—
Over-discharge Voltage	11.1V*n			Default: GEL	Default: 11.1V*n



Application scenarios



PWM
Solar
Charge
Controller
...
P1210W

PWM Solar Charge Controller
IP68 Waterproof Model

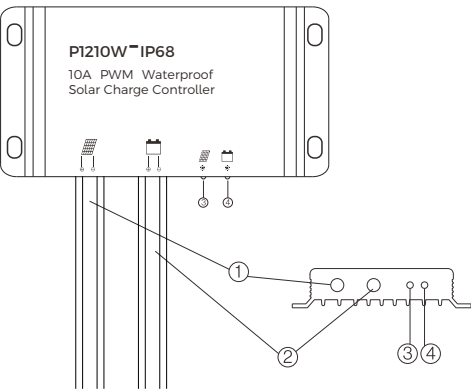


Key Figures

- IP68 waterproof design
- 12V battery system
- PWM 3-stage charge
- LED indication for charge status
- PV MC4 connector (optional)
- Long cable for connections (optional)

Extensive Features

- Waterproof IP68 design, outdoor use
- Plug & play, small size for convenient operation
- Reliable with 3 years warranty
- Customized cables and connectors optional
- Suitable for solar DC charge pack applications

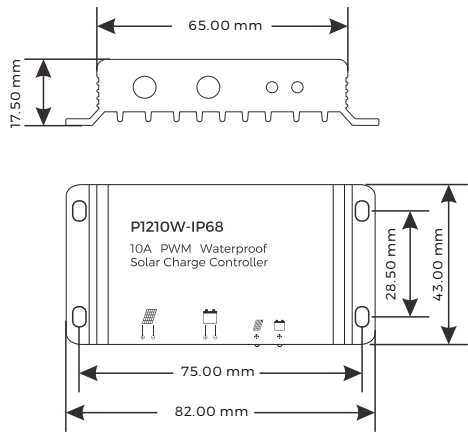


- ① Solar Input Cable & Connector
- ② Battery Cable & Connector
- ③ Solar Charge Indicator
- ④ Battery Status Indicator

Wiring Notes

To connect the battery first, then battery indicator lights up. After using the PWM controller, to disconnect the solar input connector first, then disconnect the battery side.

Controller Parameter	Value
Model No.	P1210W
Battery System Voltage	12V Only
Max System Current	10A
No-Load Loss	8mA
Max PV Input Voltage	< 30Voc
Max PV Input Power	150W
Equalize Charge Voltage	14.6V
Boost Charge Voltage	14.4V
Float Charge Voltage	13.8V
Boost Charge Recovery Voltage	13.2V
Equalize Charge Duration	1Hour
Boost Charge Duration	2Hours
Operation Temperature	-31°F - 140°F / -35°C - 60°C
IP Protection	IP68
Controller Dimension	82*65*17.5mm



Application scenarios



Accessories

...

BM
DS

Remote LCD Display - DS

Applicable for MPPT solar charge controller:
M2420/M2430/M2440/M4860
M2420N/M2430N/M2440N/M4860N



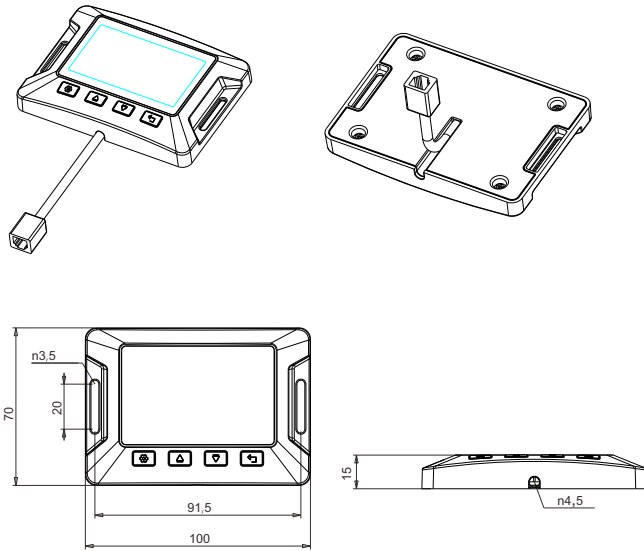
This LCD display product has been used as the remote display unit for our charge controllers. You can check the working status and parameters in the screen, and set the system working parameters by key press operation.

Key Figures

- Exclusive design for PV charge system monitoring
- Applicable for M Series controllers
- Easy fixture for remote monitoring
- 4 keys for multiple operation settings
- 2 ways of installation
- Inbuilt BT module for APP operation (optional)

Installation methods

We provide 2 ways of wiring placement as shown in picture below for different installation uses. The user can either mount the screen directly on the wall, or fix it to the cabinet with wiring extended from the back of the screen.



Dimensions

APP Operation Bluetooth Module - BM



This BT module is an external device used for communication between the solar charge controller and mobile phone for APP operation. You can connect it to our charge controllers with RS485 port for APP operation function, and please notice that some of our models are with the BT module inside the controller for the same use.

APP Use Quick Guide

Scan the QR code and download the APP "PVChargePro" to your mobile phone (Android & IOS versions)



Charge Pro 2.0



Google Play Store



IOS APP Store

Run the APP, and click on the up-right corner and choose the BT device ID, then you can get the APP applied with the charge controller.

