MC series

MPPT Solar charge controller

MC2010
MC4010
MC6015

Lumiax

IoT · RS485 · Bluetooth

- 12/24/36/48V automatic recognition
- Optional APP version for Bluetooth communication
- Real-time energy statistics function
- Perfect EMC & thermal design

Safety Instructions

The following symbols are used throughout this manual to indicate potentially dangerous conditions or mark important safety instructions. Please take care when meeting these symbols.

- A combination of multiple tracking algorithms enables tracking the maximum power point quickly and accurately
- Innovative Max Power Point Tracking(MPPT) technology, tracking efficiency >99.9%
- Full digital technology, high charge conversion efficiency up to 98%
- LCD display design, read operating data and working condition easily
- Flexible System battery selection: Liquid, Gel, AGM and Lithium
- Extends battery life through accurate remote temperature sensor
- Controller is protected against over-temperature due to built-in power reduction function
- Four stages battery charging process: MPPT, boost, equalization, float
- Dual automatic protection to avoid exceeding the rated charging power and current
- Multiple load control modes: Always on, Dusk to Dawn, Evening and Manual
- IoT wireless communication or Bluetooth communication functions optional
- With the wireless communication function of the IoT, the controller can be connected remotely through IoT/GPRS
- Monthly charging data can be calculated and displayed by grouping and graphs
- Based RS-485 standard Modbus protocol with RJ11 interface to maximize the communication needs of different occasions.
- Full automatic electronic protect function for increased charge controller availability
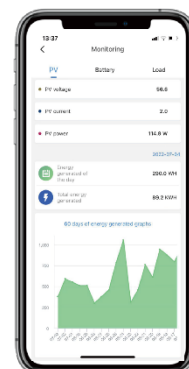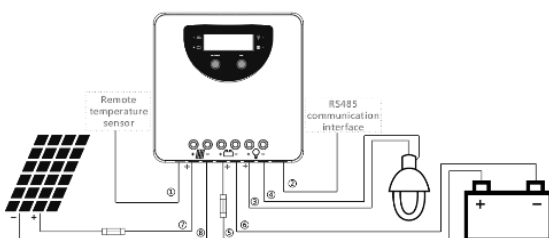
Cyber-USB

Cyber-BT

Cyber-BT is a kind of serial adpter which can make our company's solar controller be with bluetooth communication function, and carry out wireless monitoring, parameter setting, and etc. for the system only by cooperating with mobile phone APP.

Remote temperature sensor

RS485 communication interface

Technical Data

	Item	MC2010	MC4010	MC6010
Battery Parameters	Max Charging Current	20A	40A	60A
	System Voltage	12/24V automatic recognition		
	Battery Type	Gel, AGM, Liquid, Lithium (default: Gel)		
	Max volt on Bat. terminal	35V		
	Gel, AGM, Liquid — MPPT Charging Voltage	before boost or equalization charging stage(default: 14.5/29V)		
	Boost Voltage	14~14.8/28~29.6V @25℃(default: 14.8/29.6V)(Liquid, AGM)		
	Equalization Voltage	14~15.0/28~30V@25℃(default: 13.7/27.4V)		
	Float Voltage	13~14.5/26~39V @25℃		
	Low Volt. Disconnect	10.8~11.8V/21.6~23.6V(default: 11.2/22.4V)		
	Reconnect Voltage	11.4~12.8V/22.8~25.6V (default: 12.0/24.0V)		
	Overcharge Protect	15.8/31.3V		
	Temp. Compensation	-4.17mV/K per cell (Boost, Equalization), -3.33mV/K per cell (Float)		
	Lithium — Charging target voltage	10.0~32.0V(Lithium, default: 14.4V)		
	Charging recovery voltage	9.2~31.8V(Lithium, default: 14.0V)		
	Low voltage disconnect	9.0~30.0V(Lithium, default: 10.6V)		
	Low voltage reconnect	9.6~31.0V(Lithium, default: 12.0V)		
Panel Parameters	Max volt on PV terminal *1	100V(-20℃), 90V(25℃)		
	Max input power	260/520W	520/1040W	750/1500W
	Day/Night threshold	3.0~10.0/6.0~20.0V(Default: 8/16V)		
	MPPT tracking range *2	(Battery Voltage + 1.0V) ~Voc*0.9		
Load Parameters	Output Current	20A	30A	
	Load mode	Always on, Street lamp, User-defind Mode(default: Always on)		
System Parameters	Max tracking efficiency	>99.9%		
	Max charge conversion	98.0%		
	Dimensions	136.6*136.6*67.1mm	196.5*136.6*67.1mm	262.5*186.5*97.5mm
	Weight	830g	1.3Kg	2.5Kg
	Self consumption	≤12mA		
	Communication	RS485(RJ11 interface)		
	Optional	IoT, BLE(Internal/External)		
	Grounding	Common Negative		
	Power terminals	6AWG(16mm2)		
	Ambient temperature	-20~+55℃		
	Storage temperature	-25~+80℃		
	Ambient humidity	0~100%RH		
	Protection degree	IP32		
	Max Altitude	4000m		

*1. Maximum solar panel voltage at minimum ambient operating temperature

*2. Voc: PV-Module open circuit voltage

*3. Slash separate values for 12V and 24V nominal system voltage

Technical Data

	Item	MC6015
Battery Parameters	Max Charging Current	60A
	System Voltage	12/24/36/48V automatic recognition
	Battery Type	Gel, AGM, Liquid, Lithium (default: Gel)
	Max volt on Bat. terminal	65V
	Gel, AGM, Liquid MPPT Charging Voltage	before boost or equalization charging stage
	Boost Voltage	14~14.8/28~29.6/42~44.4/56~59.2V@25℃(default:14.5/29/43.5/58V)
	Equalization Voltage	14~15/28~30/42~45/56~60V@25℃(default:14.8/29.6/44.4/59.2V)
	Float Voltage	13~14.5/26~29/39~43.5/52~58V@25℃(default:13.7/27.4/41.1/54.8V)
	Low Volt. Disconnect	10.8~11.8/21.6~23.6/32.4~35.4/43.2~47.2V(default:11.2/22.4/33.6/44.8V)
	Reconnect Voltage	11.4~12.8/22.8~25.6/34.2~38.4/45.6~51.2V(default:12/24/36/48V)
	Overcharge Protect	15.8/31.3/46.8/62.3V
	Temp. Compensation	-4.17mV/K per cell (Boost, Equalization), -3.33mV/K per cell (Float)
	Lithium Charging target voltage	10.0~64.0V(Lithium, default: 29.4V)
	Charging recovery Volt.	9.2~63.8V(Lithium, default: 28.7V)
	Low voltage disconnect	9.0~60.0V(Lithium, default: 21.0V)
	Low voltage reconnect	9.6~62.0V(Lithium, default: 22.4V)
Panel Parameters	Max volt on PV terminal *1	150V(-20℃), 138V(25℃)
	Max input power	750/1500/2250/3000W
	Day/Night threshold	3.0~10.0/6.0~20.0/9.0~30.0/12.0~40.0V(Default: 8/16/24/32V)
	MPPT tracking range *2	(Battery Voltage + 1.0V) ~Voc*0.9
Load Parameters	Output Current	30A
	Load mode	Always on, Street lamp, User-defind Mode(default: Always on)
System Parameters	Max tracking efficiency	>99.9%
	Max charge conversion	98.0%
	Dimensions	262.5*186.5*97.5mm
	Weight	3Kg
	Self consumption	≤16mA (12V); ≤12mA (24/36/48V)
	Communication	RS485(RJ11 interface)
	Optional	IoT,BLE(Internal/External)
	Grounding	Common Negative
	Power terminals	6AWG(16mm2)
	Ambient temperature	-20~+55℃
	Storage temperature	-25~+80℃
	Ambient humidity	0~100%RH
	Protection degree	IP32
	Max Altitude	4000m

*1. Maximum solar panel voltage at minimum ambient operating temperature

*2. Voc: PV-Module open circuit voltage

*3. Slash separate values for 12V, 24V, 36V and 48V nominal system voltage