

# MPPT Integrated Constant-Current Charge Controller for Solar Street Lights

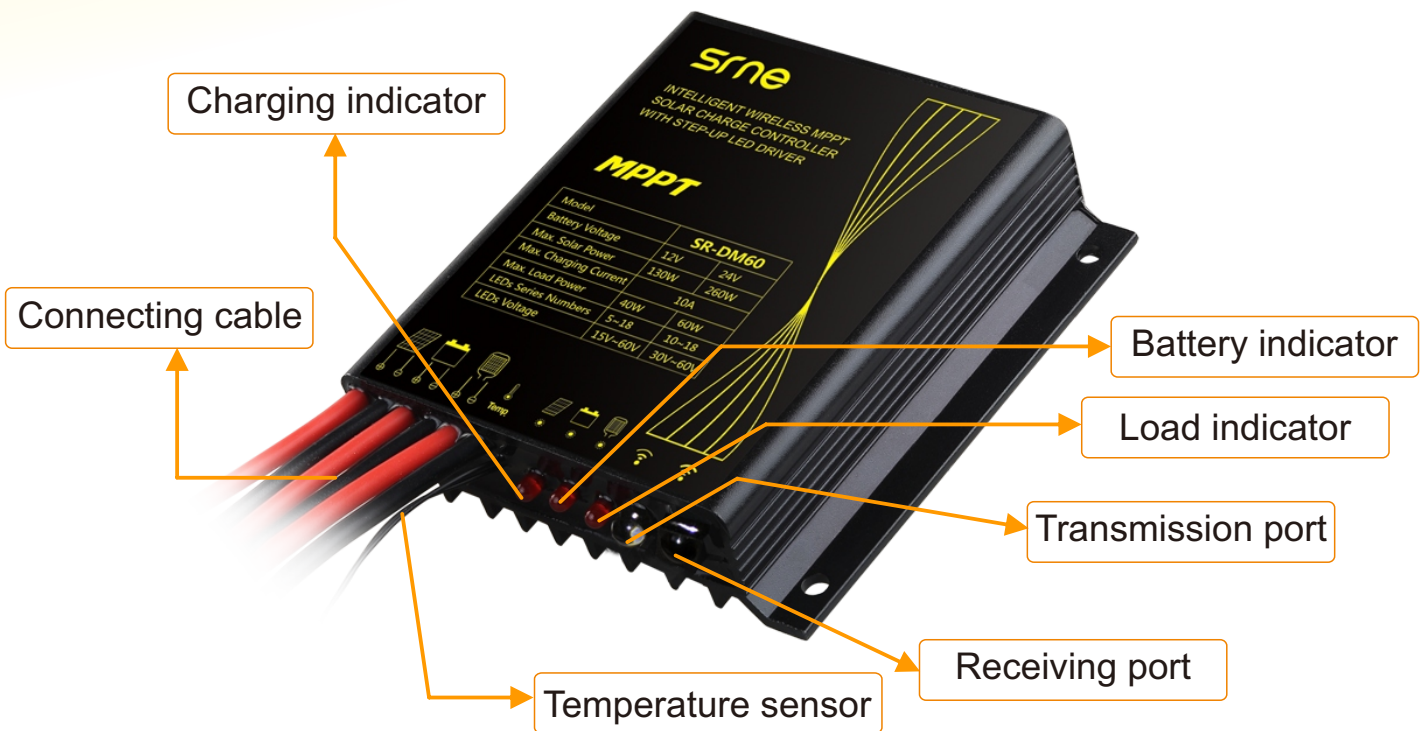
SR-DM60



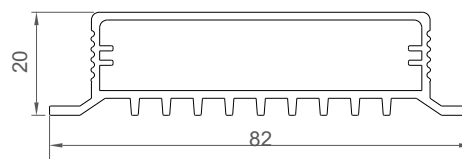
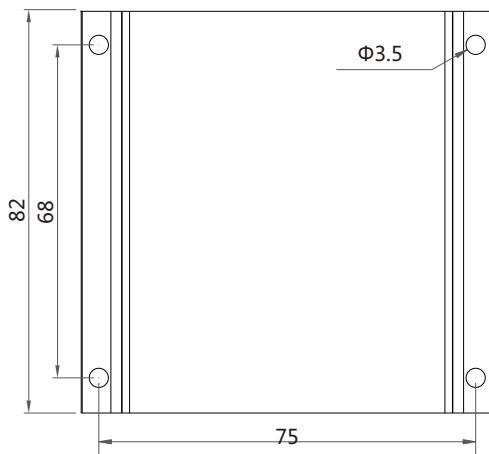
## Main Features

- With an all-new wireless remote control design, a hand-held device can be used to modify controller parameters and read system information.
- Adopts the MPPT solar charging technology, with a max. solar panel open-circuit voltage  $V_{oc} \leq 55V$  and a max. solar panel power  $P_m \leq 260W$ .
- Features load boost constant-current output, able to directly power a maximum of 18 light bulbs in series, with a max. load power  $P_{led} \leq 60W$ .
- Boasts a load triple-stage brightness adjustment and morning on design, with an operating duration adjustable from 0 to 15 hours and a power settable from 0 to 100%.
- Features a system status log function, able to record a maximum of 7 days of system status, comprehensively and effectively monitoring the system's conditions.
- Data communication adopts a multi-time two-way handshake protocol and a data compression algorithm, realizing precise and fast data transmission.
- Features an intelligent power mode which can extend the battery life to its top limit by adjusting the load power automatically according to the remaining battery capacity.
- True constant current rather than current-limiting control ensures smooth and stable output current, effectively reducing LED light attenuation and extending LED service life.
- With an infrared remote control function, operations including setting parameters, reading status and viewing historical data can be conducted.
- A metal case and an IP68 waterproof level enable the device to operate in various kinds of tough conditions.
- Adopts an improved charging algorithm to reduce the vulcanization effect caused by battery over-discharging, significantly extending the battery's service life.
- An overheat protection function enables the device to scale down the load or shut off the load completely when its temperature exceeds a certain point.
- A range of protection measures such as battery reverse-connection protection, LED short-circuit and open-circuit protection, etc., put the system under comprehensive and constant guard.

## Exterior

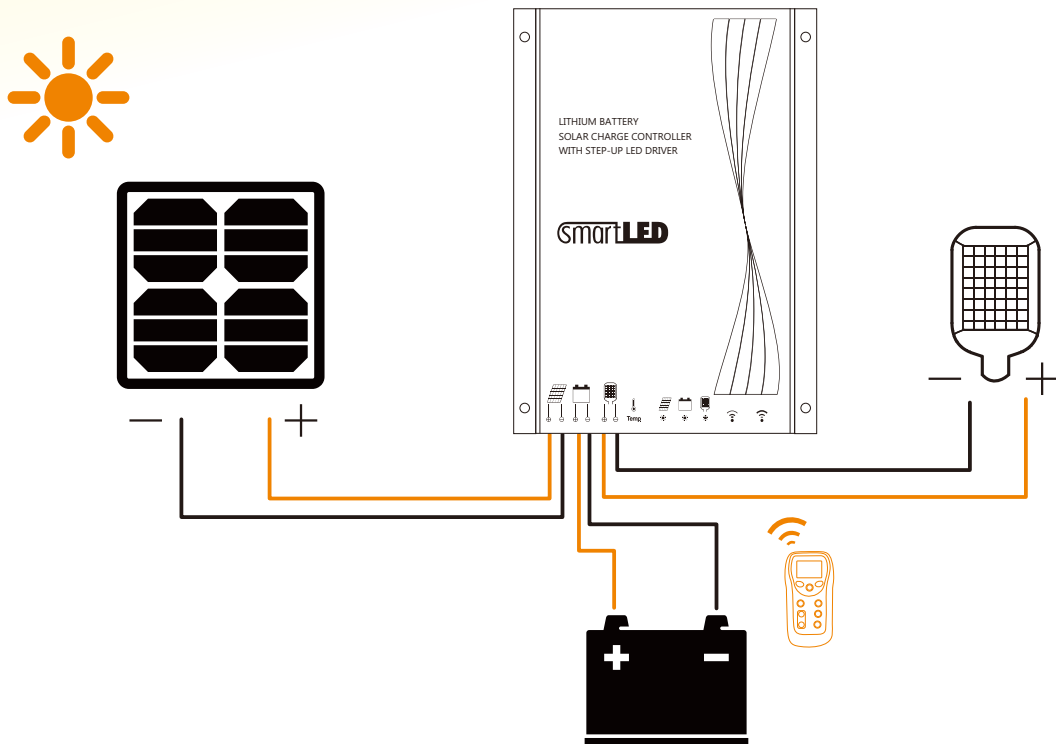


## Installation Dimensions

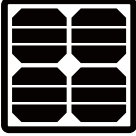




SR-DM60's dimensions are as follows:  
External dimensions: 82×82×20(mm)  
Installation dimensions: 75×68(mm)  
Installation hole diameter: 3.5(mm)

## Wiring Diagram



## State Indicators

LED indicator	Indicated item	Status	Meaning
	Charging	Steady on	Solar panel voltage higher than light control voltage
		Off	Solar panel voltage lower than light control voltage
		Slow flashing	Charging in process
		Quick flashing	System over-voltage
	Battery	Steady on	Normal battery function
		Off	Battery not connected
		Quick flashing	Battery over discharged
	Load	Steady on	Load turned on
		Slow flashing	Open-circuit LED load
		Quick flashing	Short-circuit LED load
		Off	Load switched off

## Parameters

Parameter	Value	Adjustable or not	Default
Model	DM60		
System voltage	12V/24V		
Output power	40W/12V;60W/24V		
Output current	0.15A~1.98A	√	330mA
No-load loss	13mA/12V; 20mA/24V		
Charging current	10A		
Solar energy input voltage	< 55V		
Max. solar panel power	130W/12V;260W/24V		
MPPT tracking efficiency	>99%		
Charging conversion efficiency	90%~95%		
Load conversion efficiency	90%~96%		
Over-voltage protection value	17.0V; ×2/24V		
Charging voltage limit	15.5V; ×2/24V		
Equalizing charging voltage	Boost charging voltage+0.2V; ×2/24 V (25 °C)	√	14.6V
Equalizing charging interval	30 days		
Boost charging voltage	9.0V~17.0V; ×2/24V (25°C)	√	14.4V
Floating charging voltage	9.0V ~17.0V; ×2/24V (25°C)	√	13.8V
Over-discharge recovery voltage	9.0V~17.0V; ×2/24V	√	12.6V
Over-discharge voltage	9.0V~17.0V; ×2/24V	√	11.0V
Temperature compensation	-4.0mv/°C/2V;		
Current accuracy	±3% (load current > 300mA)		
Load output voltage	<60V		
Over-temperature protection	Ambient temperature: 80°C (load downrating power)		
Over-temperature protection	Inside temperature: 120 °C (load off)		
Light control voltage	5V~11V	√	5V
Light control delay	1min~50min	√	1min
Operating temperature	-35°C~+65°C;		
Protection degree	IP68		
Weight	228g		
Dimensions (mm)	82*82*20		

**Note: parameter settings shall comply with the following rule, i.e. boost voltage > floating charging voltage > over-discharge recovery voltage > over-discharge voltage.**