

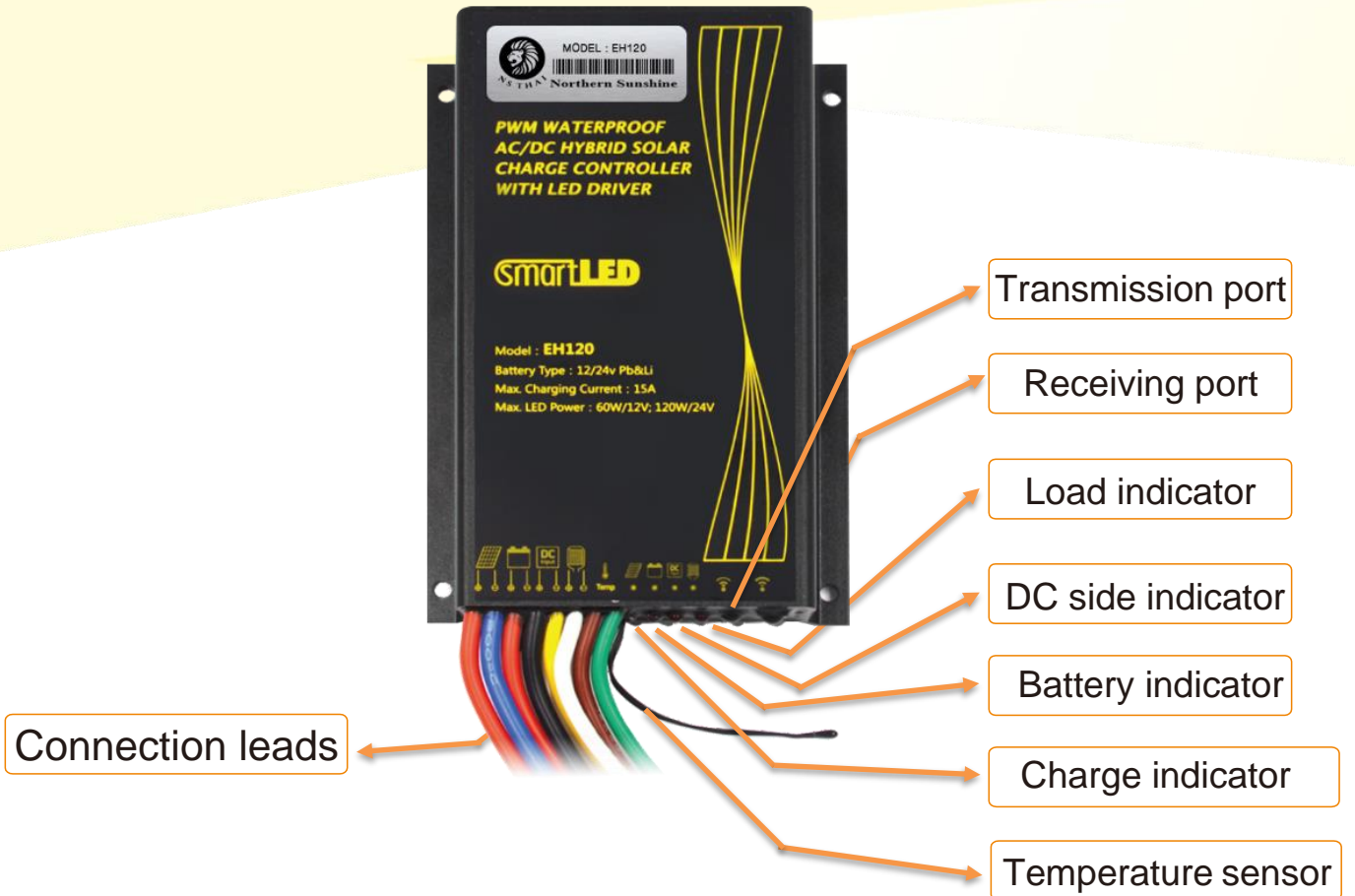
# Intelligent Wireless Dimming-Type Controller for Commercial-Power Complementation (AC/DC Hybrid) LED Solar Street Lights



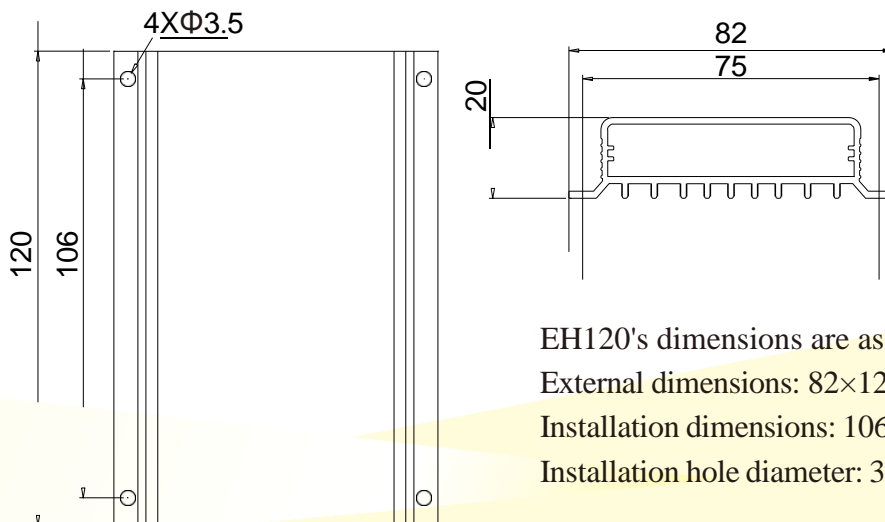
## Features

- With an all-new wireless remote control design, a hand-held device can be used to modify controller parameters and read system information.
- Fully-digital and high-precision constant current control boasting an efficiency of up to 96%.
- Supports 12 V and 24 V lead-acid batteries and lithium batteries.
- Features a DC detection function. If DC available, the system will automatically switch to DC power supply when the battery voltage falls to the DC switching point; if DC powers off, the system will shut off output when the battery reaches the over-discharge point after continuous discharging.
- Boasts an adjustable operating current range of from 0.15A to 3.96A and an adjustment precision of 30 mA.
- Employs a load triple-stage dimming and morning light design, with an operating duration adjustable from 0 to 15 hours and a power settable from 0 to 100%.
- 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.
- 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.
- True constant current rather than current-limiting control ensures smooth and stable output current, effectively reducing LED light attenuation and extending LED service life.
- 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.

## Product Picture

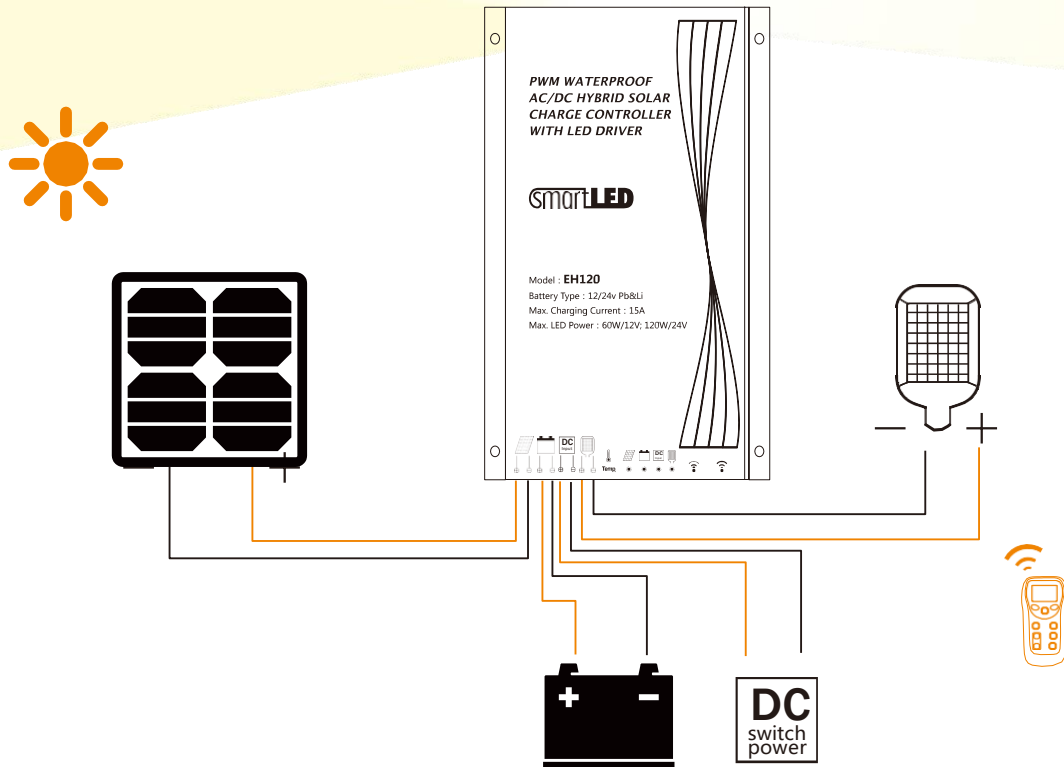


## Installation Dimension

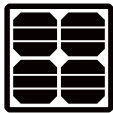





EH120's dimensions are as follows:  
External dimensions: 82×120×20 (mm)  
Installation dimensions: 106×75 (mm)  
Installation hole diameter: 3.5 (mm)

## Wiring diagram is as below



## Status Indication

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
	DC	Steady on	DC available and powering the load
		Slow flashing	DC available
		Off	DC not available

# The Parameters

Parameter	Value	Adjustable or not	Default
Model	EH120		
Supported battery type	Lead-acid batteries (including gel batteries), lithium batteries	√	
System voltage	12V/ 24V		
Output power	12V/ 60W; 24V/ 120W		
Output current	0.15 A to 3.96A	√	330mA
No-load loss	9mA/ 12 V; 12mA/ 24 V		
Charging current	15A		
Solar panel input voltage	< 55 V		
Typical constant current source efficiency	90% to 96%		
Over-voltage protection	16.0V; × 2/24 V		
Charging voltage limit	15.5V; × 2/24 V		
Equalizing charging voltage	15.2V; × 2/24 V (25 °C)		
Equalizing charging duration	1 hour		
Equalizing charging interval	30 days		
Boost charging voltage	7.5 V to 15.5 V; × 2/24 V (25 °C)	√	14.4V
Boost charging duration	4 hours		
Floating charging voltage	7.5 V to 15.5 V; × 2/24 V (25 °C)	√	13.8V
Temperature compensation	-4.0mv/°C/2V;		
Whether charging is prohibited below 0 °C	<Yes, no>	√	NO
Charging methods	<0, 1>	Invalid	
Overcharge voltage	7.5 V to 15.5 V; × 2/24 V	√	14.6V
Overcharge recovery voltage	7.5 V to 15.5 V; × 2/24 V	√	13.6V
Over-discharge voltage	7.5 V to 15.5 V; × 2/24 V	√	11.0V
Over-discharge recovery voltage	7.5 V to 15.5 V; × 2/24 V	√	12.6V
DC switching voltage	7.5 V to 15.5 V; × 2/24 V	√	11.5V
Current accuracy	±3% (load current > 300 mA)		
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 to 11V; × 2/24 V	√	5V
Light control delay	1min to 50min	√	1min
Operating temperature	-35 to +65 °C;		
Protection degree	IP68		
Weight	300g		
Dimensions (mm)	120*82*20		



The DC mentioned in this manual refers to the DC output terminal of the "switching power supply", and do not connect commercial power directly to the controller!