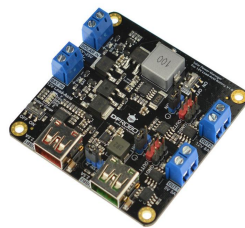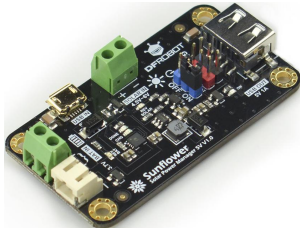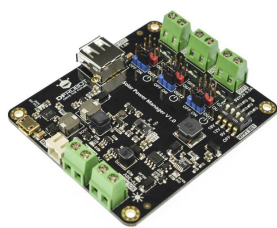# Introduction

The DFRobot **Solar Power Manager** series are designed for IoT and renewable energy projects, providing safe and high-efficiency embedded solar power management modules for makers and application engineers. All modules of this series feature as MPPT (Maximum Power Point Tracking) to maximize solar energy conversion efficiency under various sunlight. A complete battery and power protection provides reliable power management for different types of solar projects.

Solar Power Manager Series

Name	Solar Power Manager	Solar Power Manager 5V	Solar Power Manager Micro	Solar Power Manager For 12V Lead-Acid Battery
SKU	DFR0535	DFR0559	DFR0579	DFR0580
Solar Power Management IC	LTC3652	CN3065	SPV1050	CN3767
Solar Input Voltage	**7V-30V**	**4.4V-6V**	**0.5V-4V**	**15V-25V**
Maximum Charge Current	**2A(Solar/USB)**	**900mA(Solar/USB)**	**70mA(Solar)/100mA(USB)**	**4A(Solar)**
Topology	DC-DC Buck	Linear Regulator	DC-DC Boost	DC-DC Buck
Battery	**3.7V Lithium Battery**	**3.7V Lithium Battery**	**3.7V Lithium Battery**	**12V Lead-Acid Battery**
MPPT	**9V/12V/18V Optional**	**5V Fixed**	**75% Open Voltage**	**Fixed 18V**
Battery Protections	Over Charge/Over Discharge/Over Current/Reverse Connection Protections	Over Charge/Reverse Connection Protections	Over Charge/Over Discharge/Reverse Connection Protections	Over Charge/Over Discharge/Reverse Connection Protections
Output Protections	Short Circuit/Over Current/Over Heat Protections	Short Circuit/Over Current Protections	Short Circuit/Over Current Protections	Short Circuit/Over Current/Over Heat Protections
USB Charge IN	Yes	Yes	Yes	No
USB OUT	**5V 1.5A**	**5V 1A**	**No**	**5V 2.5A x2**
Regulated OUT	**Three Regulated Outputs** **3.3V 1A; 5V 1.5A; 9V/12V 0.5A**	**One Regulated Output** **5V 1A**	**One Regulated Output** **3.3V 90mA**	**Two Outputs** **5V 5A; 12V 8A**
Dimension	78.0mm×68.0mm	33.0mm×63.0mm	30.0mm×30.0mm	68.0mm×68.0mm
Features	**A complete multifunction solar power management module.** **Applications:** Small Solar Street Lamp, Solar Powered Robots **For 9V/12V/18V Solar Panels within 20W**	**A small and easy-to-use 5V solar power management module.** **Applications:** Solar Power Bank, Solar Environment Monitors **For 5V Solar Panels within 10W**	**A micro power solar power management module for low-power sensors and controllers.** **Applications:** Wireless Sensor Network, BLE iBecon **For 1V/2V/3V Solar Panels within 0.5W**	**A medium power solar management module for 12V lead-acid batteries.** **Applications:** Street lighting, intelligent agriculture, environmental monitoring station, UPS **For 18V Solar Panels within 100W**