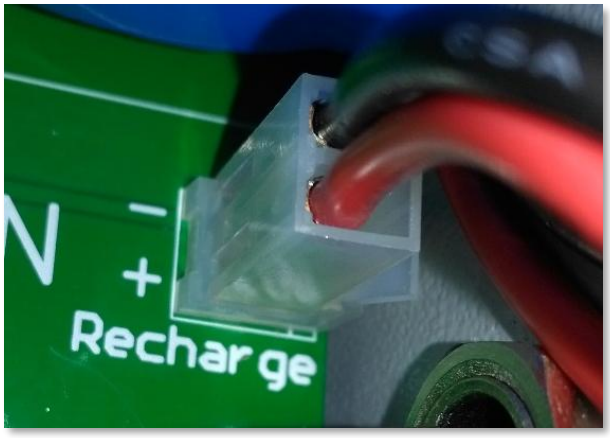
M101 Type - WiSen® Solar Unit	
Basics	
Battery Power	Internal Rechargeable Battery Pack (LiFePO4)
Product Supported	Gateway; 4-Channel RS-485 / SDI-12 Interface Node; Multi-Channel 4-20mA / 1-5V Interface Node; Vision / Camera Unit, etc.
Connection on Board	DC_In & GND Connector
Battery Life	Extends the operational duration of a gateway by approximately twice compared to using its internal batteries alone Note: To further extend the operating duration, please consult with Wisen team.
DC Output Voltage	11.2V- 14.6V
Capacity when fully charged	6.0AHr
Solar Panel	10W
Estimated Recharge Time (via Solar)	8- 12Hr
Dimension (L x W x H)	180 x 140 x 60mm
Weight	2.2kg
Industrial Standard	
Casing and Painting Materials	Aluminium-Alloy Die Castings 12 (Epoxy Polyester Powder Coating)
IP Rating	≥ IP66
Operating Temperature	Internal Battery Charging Temperature: 0°C- 50°C Internal Battery discharging Temperature:-20°C- 65°C

Installation Guidance

The M101-Solar Unit is an integrated power solution designed to provide reliable, extended operation for Wisen field devices in off-grid or remote locations. It combines a high-efficiency 10W solar panel with a robust, long-life Lithium Iron Phosphate (LiFePO4) battery pack.

1. **Safety First:** Always ensure the output switch on the Solar Unit is in the "OFF" position before beginning any wiring operations. Handle the high-capacity battery pack with care.
2. **Correct Wiring:** Ensure all positive "+" and negative "-" wires are connected correctly to the corresponding terminals on the unit's PCB:
    - **A.** Connect "PCB Recharge + &-" terminals to the Rechargeable Battery Unit plug.
    - **B.** Connect "PCB Power_Out + &-" terminals to the Gateway's "+" & "-" terminals.
    - **C.** Connect "PCB Solar_In + &-" terminals to the External Solar Panel's "+" & "-" terminals.



3. **Power On:** After verifying all connections are correct and secure, switch the unit "ON" to activate the power output.

Refer to the unit's diagrams for visual guidance on wiring and switch location.

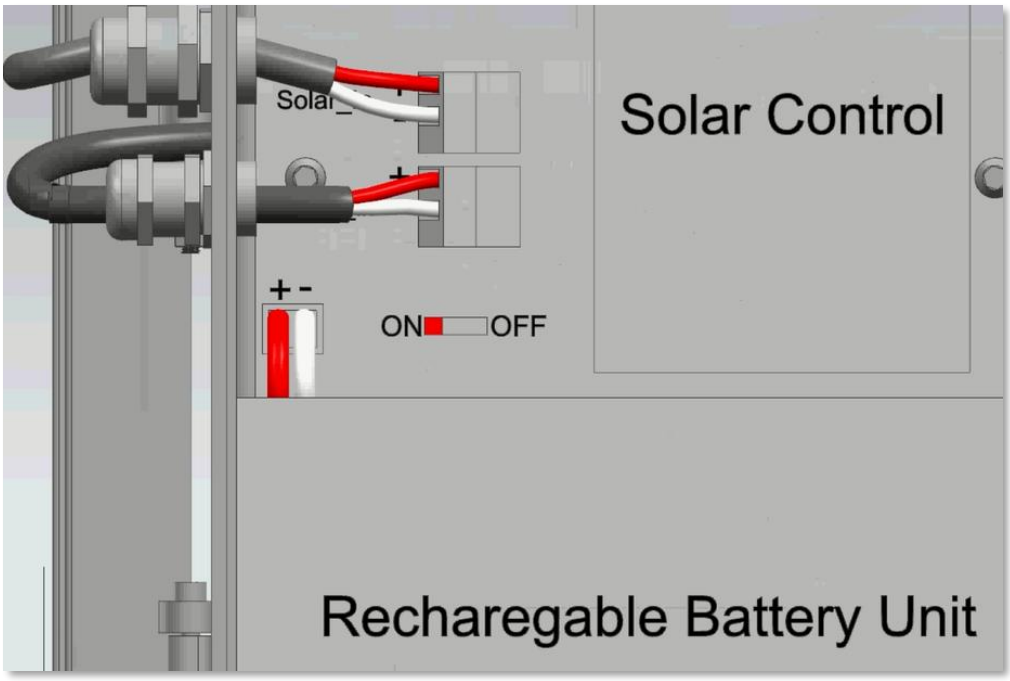


Figure. Solar unit – wiring and ON/OFF switch.

Figure. Solar unit- Overview.

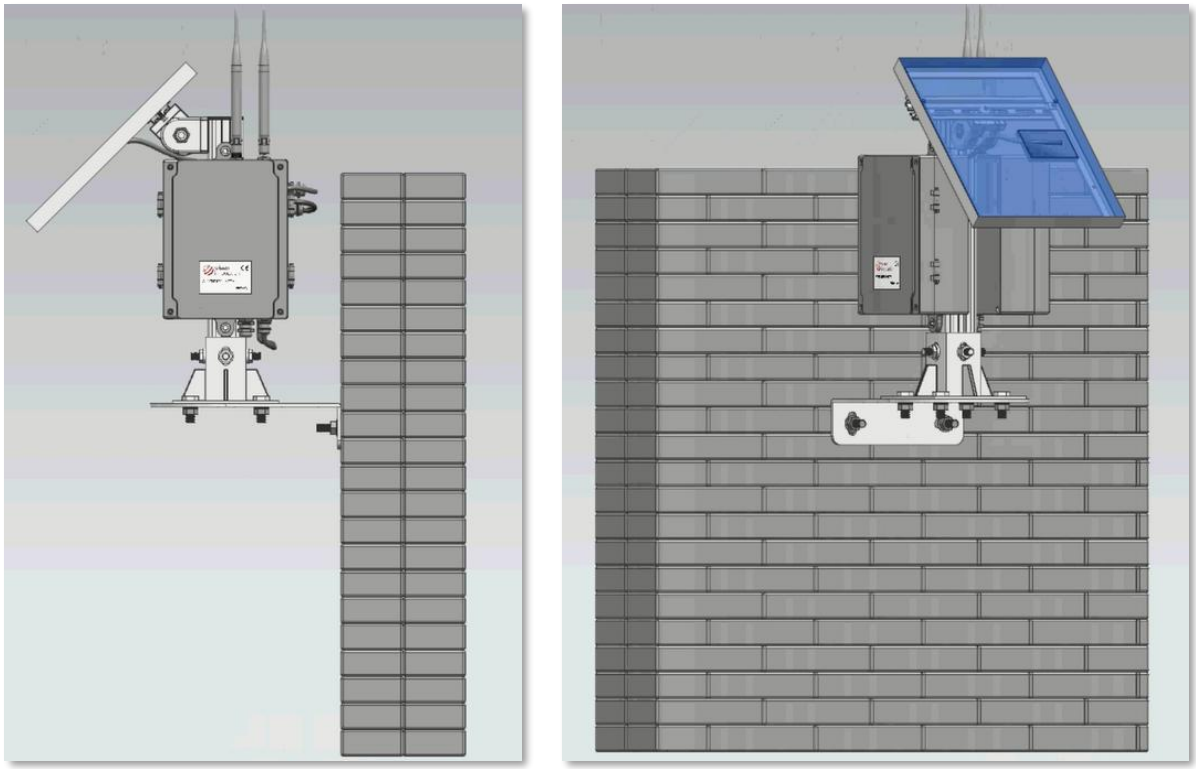


Figure. Solar unit powering a gateway.

Integrated LiFePO4 Battery Pack Specification	
Parameter	Specification
Chemistry	Lithium Iron Phosphate (LiFePO4)
Rated Capacity (Typ.)	6.0 Ah
Nominal Voltage	12.8 V
Maximum Charge Voltage	14.6 V
Cut-off Voltage	10.8 V
Max Continuous Charge Current	6.0 A
Max Continuous Discharge Current	6.0 A
Short Circuit Protection	Yes (Integrated within pack)
Dimensions (L x W x H)	130 x 35 x 70 mm
Weight	0.6 kg
Cycle Life	>2000 cycles (to 70% of initial capacity)

Warnings & Safety Instructions

1. **Do Not Press:** The power management circuitry is inside the plastic battery package. Do not apply pressure to the package.
2. **Do Not Disassemble:**
    - Never disassemble the battery cells. Doing so can cause an internal short circuit, leading to gassing, fire, or explosion.
3. **Electrolyte is Harmful:**
    - If the electrolyte contacts skin or eyes, immediately flush with plenty of fresh water and seek medical attention.
4. **Do Not Incinerate:**
    - Never incinerate or dispose of the battery in fire, as it may explode.
5. **Battery Replacement:**
    - Battery replacement must only be performed by the equipment supplier or a qualified service provider. Do not attempt user replacement.
6. **Do Not Use Damaged Cells:**
    - If the battery shows signs of damage (e.g., deformed package, electrolyte smell, leakage), discontinue use immediately.
    - Keep damaged or leaking batteries away from fire.
7. **Storage:**
    - Store the batteries at room temperature, charged to approximately 30%-50% capacity.
    - For long-term storage, recharge the batteries approximately every six months to prevent over-discharge.
    - Note: All batteries degrade over time due to chemical reactions, even when unused. Usage outside specified conditions may shorten lifespan or cause damage.