

# 30%

Up to 30% efficiency boost – maximum power harvest guaranteed

## Module PV Optimizer MPO650 / MPO850



### Truly OPEN

*Industry-leading Open Smart Ecosystem* – seamlessly connects all PV equipment (modules, inverters, meters, weather stations and more) through our *ALL-In-One App & Web Platform*

### Truly SMART

*AI-powered* loss recovery with real-time optimization tracking and visualized results

### Truly STRONG

Up to **30%** Efficiency Boost – maximum power harvest guaranteed

#### Works in All Conditions



Shading



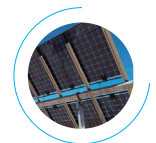
Dust/Soiling/  
Snow cover



Mixed/  
Damaged panels



Orientation



Bifacial  
Application

# Key Benefits



## Power Boost: More Energy, More Profit

- Increase power output by 5%~30% - works better in shade/dirt/dust/soiling and more
- Reduce cleaning frequency and mismatch loss



## AI-Powered O&M: Full Visibility Control

- Real-time AI monitoring at module-level
- Smart fault alerts with precise location



## Safety Guaranteed

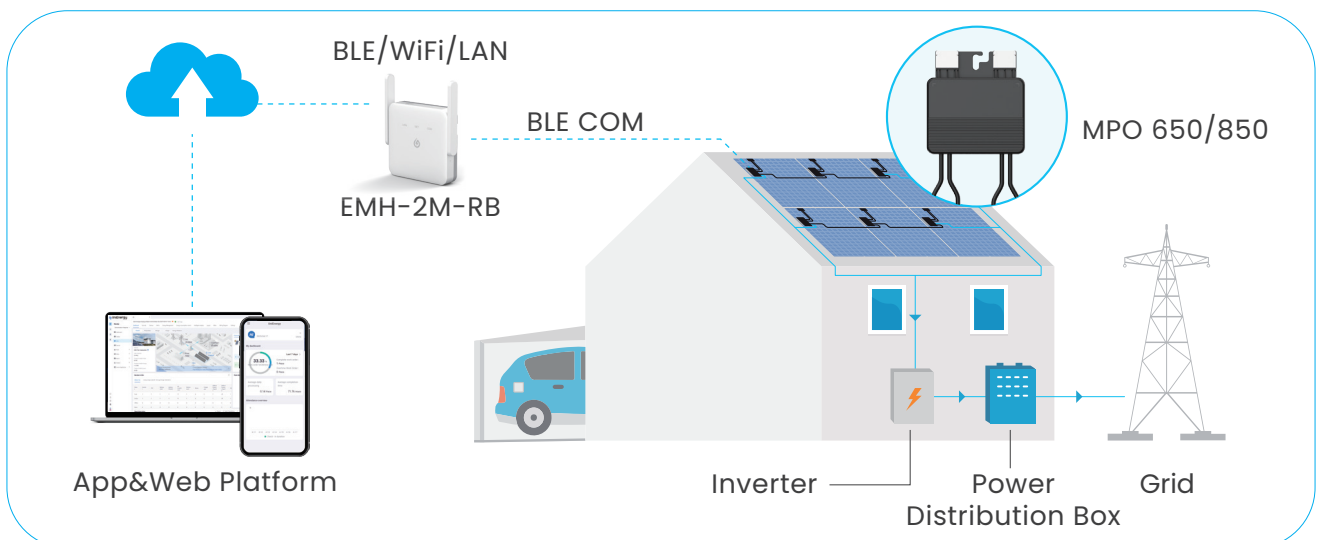
- Triple protection against over-voltage/current/temperature
- Industry-leading <30s rapid shutdown (Global safety-compliance)
- Automotive-grade chip with IP68 protection



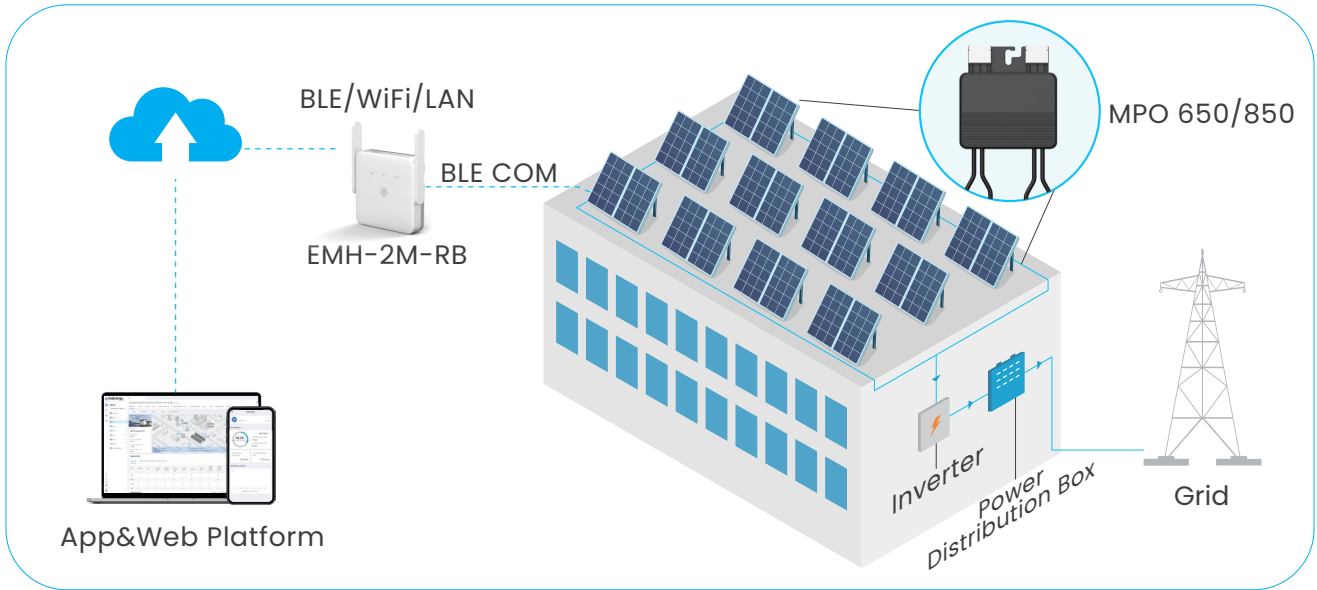
## Universal Fit: Plug & Play

- 99% inverter brand compatibility
- Flexible installation: optimize partial or full systems

# SOLARMAN Residential Optimization Solution

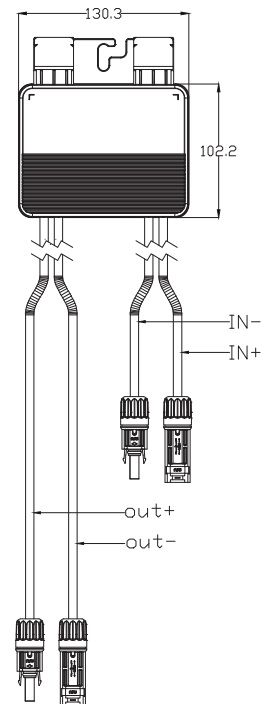


# SOLARMAN C&I(Commercial & Industrial) Optimization Solution



## Parameters

Model	MPO650	MPO850
<b>Input Parameter</b>		
Peak Conversion Efficiency	99.50%	99.50%
Rate Input Power	650Wp	850Wp
Max. Input Voltage	70V	70V
Max. Input Current	16A	20A
MPPT Voltage Range	10-70 V	10-70 V
<b>Output Parameter</b>		
Max. Output Power	650Wp	850Wp
Max. Output Voltage	65V	65V
Max. Output Current	16A	20A
<b>COM Parameter</b>		
Communication Type	BLE Mesh	BLE Mesh
Max. Distance	300m	300m
No. of Single Network Connection	300	300
<b>Others</b>		
Dimension (mm)	130.3*102.2*22.7	130.3*102.2*22.7
Weight (with cable-standard configuration)	711g	868g
Installation	Screw+Clip	Screw+Clip
Connector	NIU A4 max/QC/MC4	NIU A4 max/QC/MC4
Cable	4mm <sup>2</sup> /10-12AWG	4mm <sup>2</sup> /10-12AWG
Working Temperature	-40°C~+85°C	-40°C~+85°C
IP Grade	IP68	IP68
Certification Standard	CE/RoHs/REACH/TUV	CE/RoHs/REACH/TUV



# Case Study

## Residential Rooftop PV Project, Italy

### Challenge:

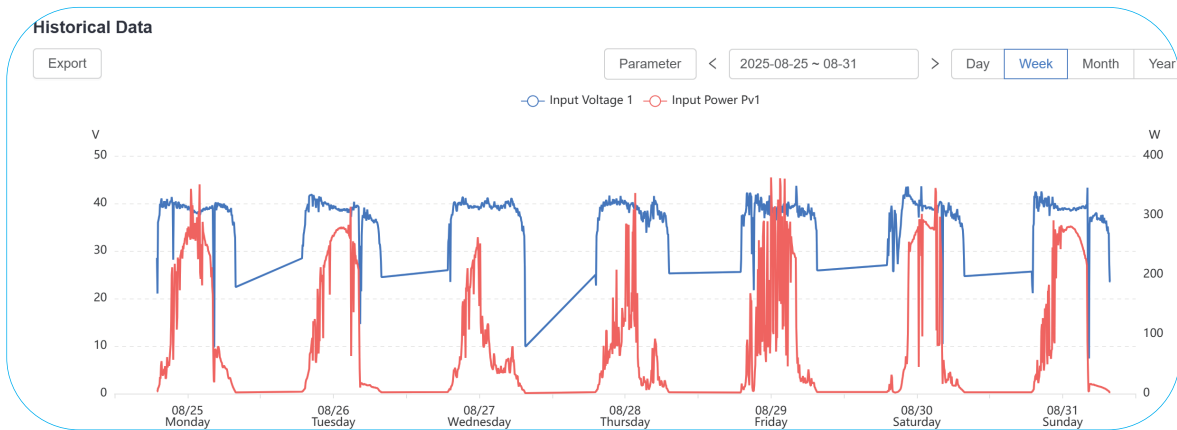
Photovoltaic Installed Capacity: 6kW

Up to 30% loss in photovoltaic power generation due to shading

### Results:

Photovoltaic power generation loss reduced to 10% after SOLARMAN optimizer installed

Annual avoided energy loss: 1.3MWh



## Residential Rooftop PV Project, Germany

### Challenge:

Photovoltaic Installed Capacity: 2.8kW

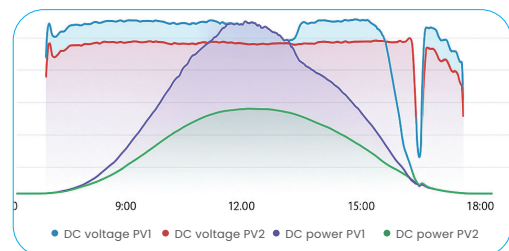
Up to 10% loss in photovoltaic power generation due to improper installation orientation



### Results:

Photovoltaic power generation loss reduced to 2% after SOLARMAN optimizer installed

Annual avoided energy loss: 168kWh



## Commercial & Industrial PV Project, Germany

### Challenge:

Photovoltaic Installed Capacity: 15kW

Up to 20% loss in photovoltaic power generation due to dust cover



### Results:

Photovoltaic power generation loss reduced to 5% after SOLARMAN optimizer installed

Annual avoided energy loss: 2.8MWh



## Commercial & Industrial PV Project, Slovakia

### Challenge:

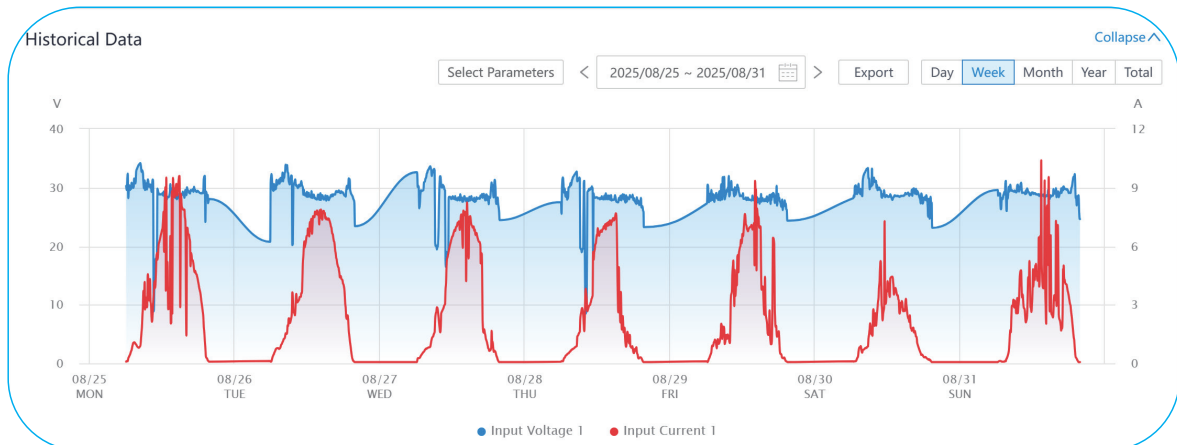
Photovoltaic Installed Capacity: 1366kW

Up to 22% loss in photovoltaic power generation due to mixed panels

### Results:

Photovoltaic power generation loss reduced to 10% after SOLARMAN optimizer installed

Annual avoided energy loss: 177.6MWh



# Why choose SOLARMAN?

You gain access to:

✓ **The premier open and integrated platform** – 16+ years energy IoT & AI expertise (since 2009)

✓ **Full-stack solutions** – Hardware + Software + Energy algorithms for residential, commercial and industrial applications

✓ **Global validation** – 220GW+ assets, 2.6M+ plants across 190+ countries

✓ **Certified technology** – 60+ patents & IEC/UL/EN compliance, backed by reliable technical support & installer-friendly services

✓ **AI-driven optimization** – With smart diagnostics & predictive analytics for peak performance

**Discover  
how our technology  
can work for you:**



Contact SOLARMAN  
Experts today

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