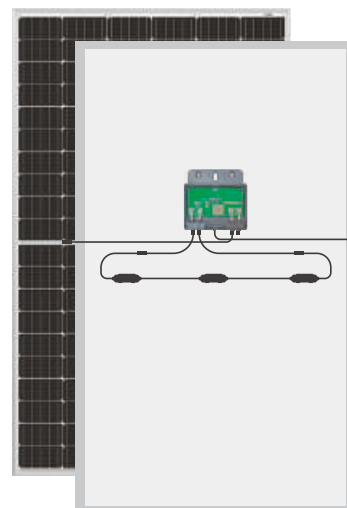


# HS4-O Solar Optimizer

## Features&Benefits:

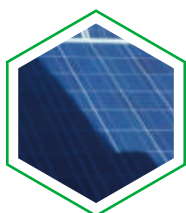
- HS4-O applies to all types of modules, Optimization +Voltage Limiting +Anti-Hotspot
- Based on Sillumin power optimization chip SiLM6120, eliminate panel or cell level
- Optimize power generation, lower LCOE, improve system reliability, and extend the service life of solar module



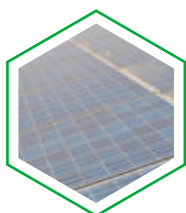
**3% ~ 25%**  
Retrieve of power generation loss

**30%**  
Long string installation available due to Voltage Limiting

**$\Delta < 10^{\circ}\text{C}$**   
Hotspot Free, safer and more durable



Shading



Soiling



Snow Remnant



Degradation



Orientation

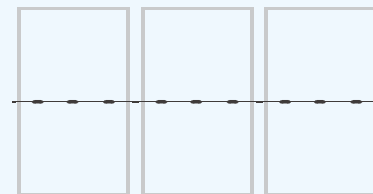


Bifacial Application

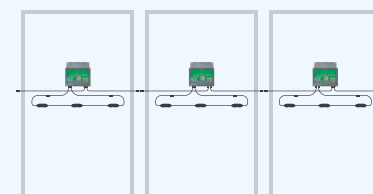
## Technical Specifications

Product		External Optimizer	
Model		HS4-O Solar Optimizer	
INPUT PARAMETER	Maximum Input Power	800 W	
	Operating Voltage Range	7 ~ 70 V	
	MPPT Voltage Range	7 ~ 70 V	
	Maximum Input Current	20 A	
	Over-current Protection	25 A	
	Over-temperature Protection	160 °C	
OUTPUT PARAMETER	Maximum Output Current	22 A	
	Theoretical Maximum Output Voltage	65 V	
	Output Voltage Limiting Threshold	42 V	
	Total Maximum System Voltage	1500 V	
	72 Type Module String@1500 V	36 Modules	
	72 Type Module String@1100 V	26 Modules	
	72 Type Module String@1000 V	24 Modules	
CONVERSION EFFICIENCY	Peak Conversion Efficiency	99.5%	
	Power Consumption@5 A	0.9 W	
	Power Consumption@8 A	1.4 W	
	Power Consumption@12 A	2.9 W	
	Power Consumption@15 A	3.8 W	
SPECIFICATIONS	Dimensions (L×W×H)	105*105*20 mm	
	Weight	500 g	
	Cable	4.0 mm <sup>2</sup>	
		Input Wire 50 cm*2pcs	
		Output Wire 100 cm*2pcs	
	Connector	MC4 (Compatible)	
	Operating Temperature Range	-40 ~ +85 °C	
	Protection Rating	IP65	
	Design Standard	Designed Life	25 Years
	Function	Standard Features	Optimization   Voltage Limiting   Anti-Hotspot

### Module Assembly Diagram

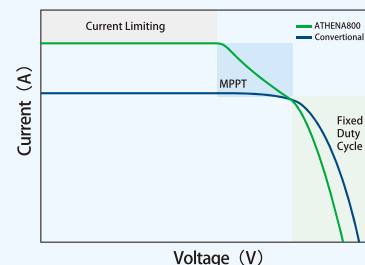


CONVENTIONAL



External Optimizer ATHENA800

### I-V Curve



## Advantage of Long String installation(Voltage Limiting)

Module & Inverter	Conventional Module	Optimized Module	Cost Reduction
Maximum Module Qty./String	1100V/53V=20PCS	1100V/42V = 26PCS	Module Qty add 30%
Power/String	20PCS*370W=7400W	26PCS*370W=9620W	Power add 30%
Combiner box(16 strings)	7400W*16strings=118.4kW	9620W*16strings=153.9kW	Cost/Wp ↓
Central Inverter(16 strings)	118.4kW*16strings=1894kW	153.9kW*16strings=2463kW	Cost/Wp ↓
Cable	DC Cable	String Qty/Labor Cost/Line Loss ↓	Cost/Wp ↓
String Operating Voltage	750V~780V	850V~900V	Higher System Efficiency

\*72 Type 370W Mono Module · 1100V Inverter



Conventional Module : 20PCS/String (1100V Inverter), 28PCS/String (1500V Inverter)



Optimized Module : 26PCS/String (1100V Inverter), 36PCS/String (1500V Inverter)

### P-V Curve

