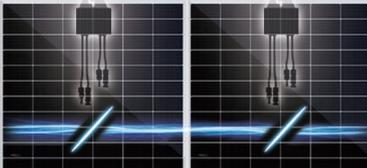


## MRO Series Module-Level Micro Controller Optimization Function Series

### Module-Level Rapid Shutdown

Reduce the voltage to 1V within 30s



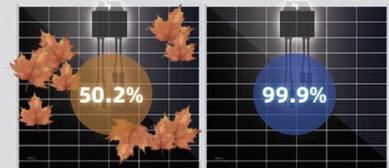
### Module-Level Monitoring

1:1 digital twin virtual power station. Real-time monitoring and diagnosis of panel status



### Module-Level Optimization

panels in the same string are not troubled by power generation mismatch



The O series module-level micro-controller has module-level rapid shutdown, module-level monitoring and module-level MPPT power generation optimization functions. The optimization function ensures the optimal power output of each module in the solar system.

The new PLC has efficient two-way communication, no additional wiring is required, and the instability of wireless communication is avoided, so that the system always runs in an efficient and stable state.



#### Reduce the voltage to 1V within 30s

Compatible with any third party PV inverters  
Achieving module-level safe and rapid shutdown within 30s (safety mode)



#### Intelligent operation costs reduced by 50%

1:1 digital twin virtual power plant  
Achieving intelligent power plant operation and maintenance and in-depth module-level health scan



#### Power generation increased by 10% to 30%

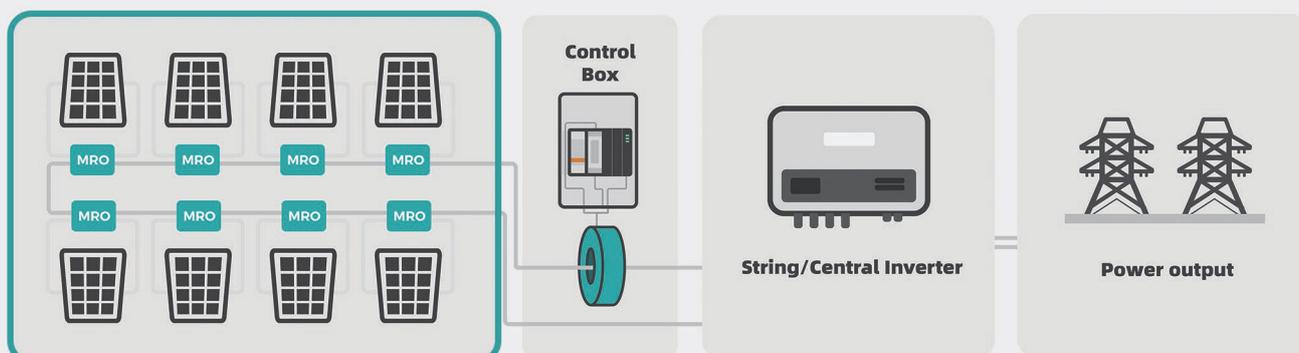
With module-level MPPT optimization function,  
to achieve optimal power generation for each panel  
The power generation can be increased by up to 30%+



#### Installed capacity increased by 30%+

The installation of solar modules is not restricted  
by the shading angle. The installed capacity is fully  
increased due to full installation of the roof area

Technical Parameters	APT-MC-MRO
Functions	Module-level Rapid shutdown ; Module-level Monitoring ; Module-level MPPT Optimization
Number of Modules Connected	1
<b>Input</b>	
Rated Input Power	700W
Max.Input Voltage	70V
MPPT Operating Range	10V-70V
Max. Operating Current (I <sub>mp</sub> )	18A (20A)
Max. Short-circuit Current (I <sub>sc</sub> )	22.5A (25A)
Max. Efficiency	99.5%
<b>Output</b>	
Max. Output Voltage	43V
Max. Output Current	18.8A (20.8A)
Bypass Output	☑
Output Shutdown Voltage	< 1V
Weighted Efficiency	99.0%
<b>Communication</b>	
Communication Mode	PLC
Communication Rate	200k-1M/s Self-Adaptive
Compatible Data Controller	DCON
<b>Safety Certification</b>	
Safety	UL1741 / CSA C22.2 No.107.1 / CSA C22.2 No.330 comply with NEC Code Article 690.12 module-level shutdown characteristics
EMC	FCC part 15b
RoHS Certification	☑
<b>General Parameters</b>	
Dimensions (L x W x D)	123.8 x 112 x 27 mm
Weight (Including Cables)	0.66KG
Input and Output Terminals	MC4 / Compatible with MC4 / Customized
Length of Output Cable	1.2m / Customized
Operating Temperature Range	-40°C to +85°C
Humidity Range	0%-100%
Protection Rating	IP68
Max.System Voltage	1000V / 1500V



**ACLOUD**  
Module-level monitoring

**RSD**  
Module-level rapid shutdown

**Module-level optimization**