

About AdvanSol

AdvanSol is an emerging global technology leader in smart renewable energy, driven by innovation as its core engine. With a seasoned industry team, the company possesses fully independent R&D capabilities and large-scale manufacturing capacity, and has launched the industry's most complete module-level product portfolio, covering rapid shutdown devices, monitoring RSD, full-function optimizers, and the pioneering 3rd-generation smart micro-string inverter. All products are certified by UL1741, UL3741 and other international standards, ensuring exceptional quality and safety, and are widely exported worldwide, establishing AdvanSol as a benchmark in smart energy safety technologies.

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Digital Brochure



Rapid Shutdown Solution

R Series



APT-MC-R-T1/T2

R Series Module-Level Micro Controller (Rapid Shutdown Device)

Patented hardware protection automatic shutdown

Rapid shutdown within 30 seconds

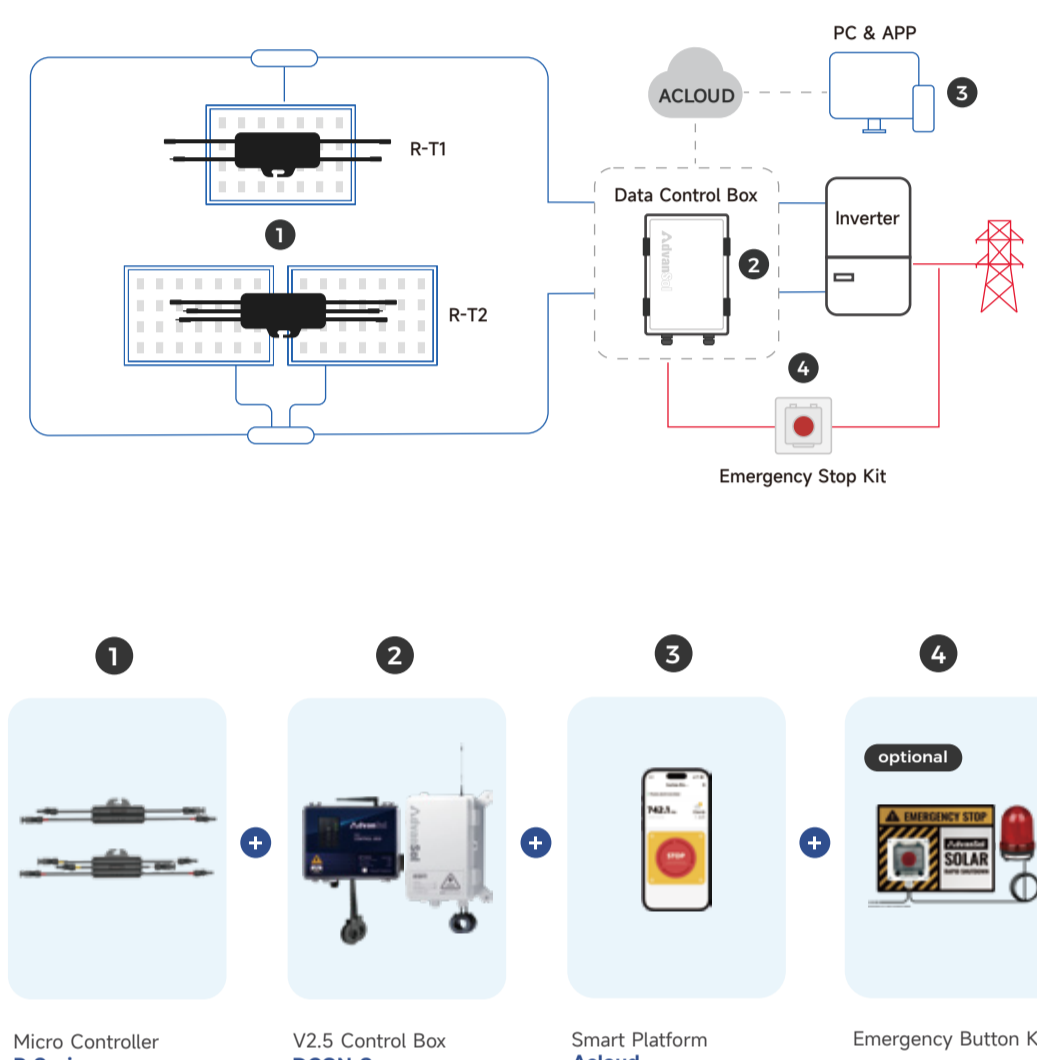
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Optional module-level AFCI safety mechanism

Full certification of UL1741 and UL3741

Compatible with all modules below 800W

Can be remotely controlled via mobile App



Functional Parameters	R Series Module-Level Micro Controller	Other RSD Brands
Compatible Components	1-to-2 (800W*2) / 1-to-1 (800W)	1-to-1 (<650W)
Technical Patents	Patented hardware protection, device stability	X
Product Certification	UL1741, UL3741, FCC, CE, etc.	X
Protection Level	IP68	<IP67
Communication Method	PLC	Wireless
Interaction Method	WEB+APP	X
Shutdown Method	Emergency stop manual shutdown / APP shutdown / Automatic product shutdown	On-site manual shutdown
Installation Method	Screw installation or direct rear clip installation	Screw installation
Shutdown Speed	5-15s, can achieve shutdown within 1s at limit	>15s
Standard Cables	Input (200mm/950mm), Output (1300mm/1500mm)	Requires additional DC extension cable and MC4 connector
Installation Guide	44-step quick installation process, guided by mobile APP	X
Technical Guidance	✓	X
Local Service	✓	X

Monitoring RSD Solution

MR Series



APT-MC-MR-T2

MR Series Module-Level Micro Controller (Monitoring RSD)

Module-level Shutdown 30 Seconds Rapid Shutdown

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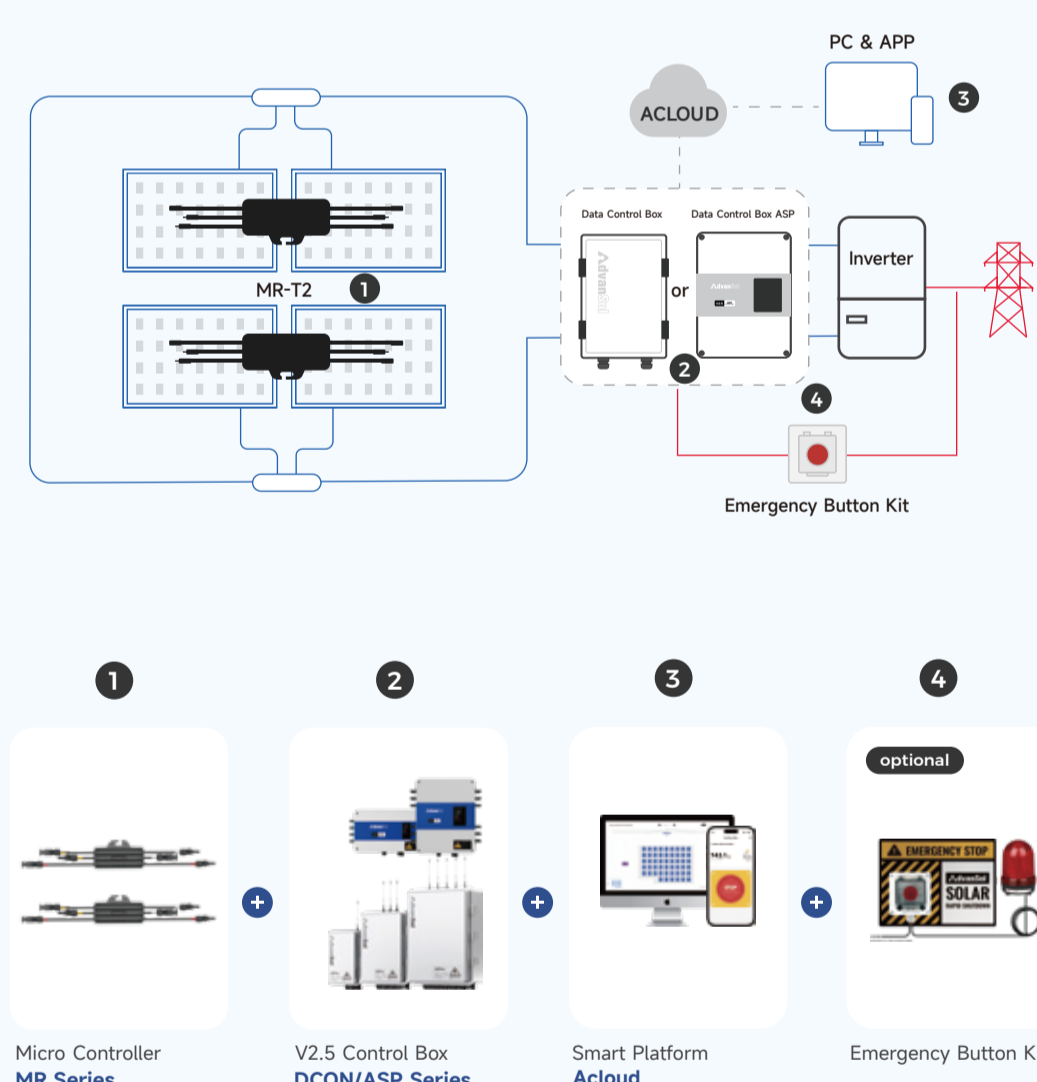
Real-time Module-level Monitoring

HPLC, No Signal Loss

Full certification of UL1741 and UL3741

Mixed Installation of Monitored Shutdown Device and Optimizer

Module-level AFCI Safety Mechanism (Optional)



Functional Parameters	MR Series Module-Level Micro Controller	Other Monitoring RSD Brands
Compatible Components	1-to-2 (800W*2)	1-to-1 (<650W)
Technical Patents	Patented hardware protection, device stability	X
Product Certification	UL1741, UL3741, FCC, CE, etc.	X
Protection Level	IP68	<IP67
Communication Method	HPLC	Wireless
Interaction Method	WEB+APP	X
Installation Method	Screw installation or direct rear clip installation	Screw Installation
Flexible Adaptation	Mixed installation of monitored shutdown device and optimizer	X
Shutdown Speed	5-15s, can achieve shutdown within 1s at limit	>15s
Standard Cables	Input (200mm/950mm), Output (1300mm/1500mm), compatible with all modules	Requires additional DC extension cable and MC4 connector
AFCI (Optional)	Module-level AFCI Safety Mechanism	X
Module-level Shutdown	✓	X
Module-level Monitoring	✓	X
Plant Management	Module-level Management	X
Inspection Method	Daily	2-3 times per quarter
Fault Troubleshooting Time	Anytime	Starting from 4+ hours
Management Method	Module-level Management	String-level Management
Visualized Data Display	✓	X
1:1 Plant Replication	✓	X
Automatic Fault Warning	✓	X
Fault Analysis	✓	X
Intelligent Operation Strategy	✓	X
System Loss Analysis	✓	X
Module-level Physical Location	✓	X
Remote Upgrade System (OTA)	✓	X
AI Assistance	✓	X
Installation Guide	4-step quick installation process, guided by mobile APP	X
Technical Guidance	✓	X
Local Service	✓	X

Full-function Optimizer Solution

MRO Series



APT-MC-MRO APT-MC-MRO-120

MRO Series Module-Level Micro Controller (Full-function Optimizer)

Module-level MPPT Optimization

30%+

Real-time Module-level Monitoring

FAULT MODULE

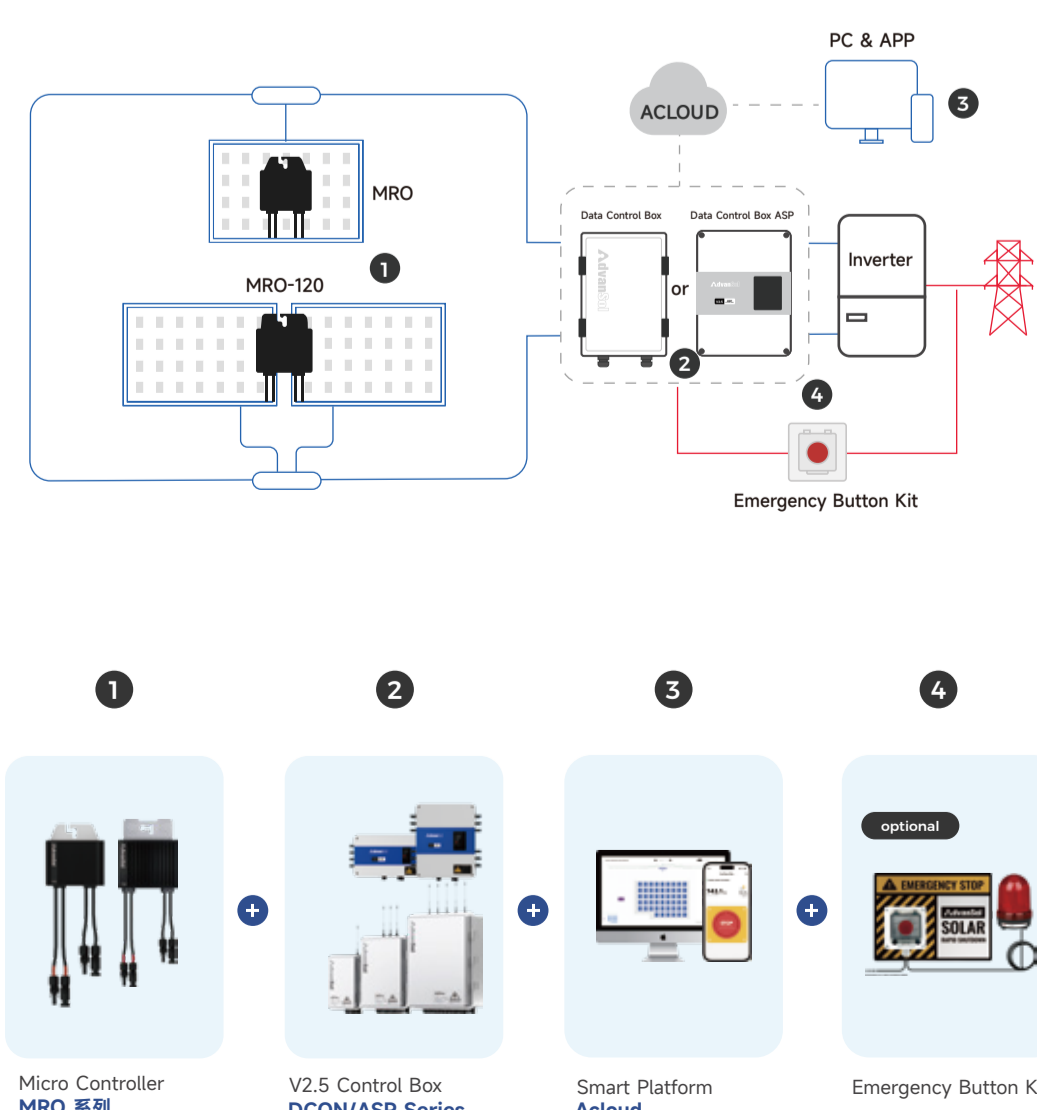
Mixed Installation of Monitored Shutdown Device and Optimizer

Full Aluminum Alloy Housing with Enhanced Heat Dissipation Fins

IP68

Full certification of UL1741 and UL3741

Module-level AFCI Safety Mechanism (Optional)



Functional Parameters	MRO Series Module-Level Micro Controller	Other Optimizer Brands
Compatible Components	1-to-1 (800W), 1-to-2 (1600W)	1-to-1 (<650W)
Technical Patents	Patented hardware protection, device stability	X
Product Certification	UL1741, UL3741, FCC, CE, IEC, etc.	X
Module-level Shutdown	✓	X
Module-level Monitoring	✓	X
Protection Level	IP68	<IP67
Product Material	Full aluminum alloy housing with enhanced heat dissipation fins	Plastic housing, no heat dissipation design
Communication Method	HPLC	Wireless
Interaction Method	WEB+APP	X
Flexible Adaptation	Mixed installation of monitored shutdown device and optimizer	X
Shutdown Speed	5-15s, can achieve shutdown within 1s at limit	X
Standard Cables	1-to-1 Input (200mm/950mm), Output (1300mm/1500mm) / 1-to-2 Input (1000mm/1200mm), Output (1400mm/1600mm) Compatible with all modules	Requires additional DC extension cable and MC4 connector
AFCI (Optional)	Module-level AFCI Safety Mechanism	X
Plant Management	Module-level Management	String-level Management
Inspection Method	Daily	2-3 times per quarter
Fault Troubleshooting Time	Anytime	Starting from 4+ hours
Management Method	Module-level Management	String-level Management
Visualized Data Display	✓	X
1:1 Plant Replication	✓	X
Automatic Fault Warning	✓	X
Fault Analysis	✓	X
Intelligent Operation Strategy	✓	X
System Loss Analysis	✓	X
Module-level Physical Location	✓	X
Remote Upgrade System (OTA)	✓	X
AI Assistance	✓	X
Installation Guide	4-step quick installation process, guided by mobile APP	X
Technical Guidance	✓	X
Local Service	✓	X

V3.0 Solution

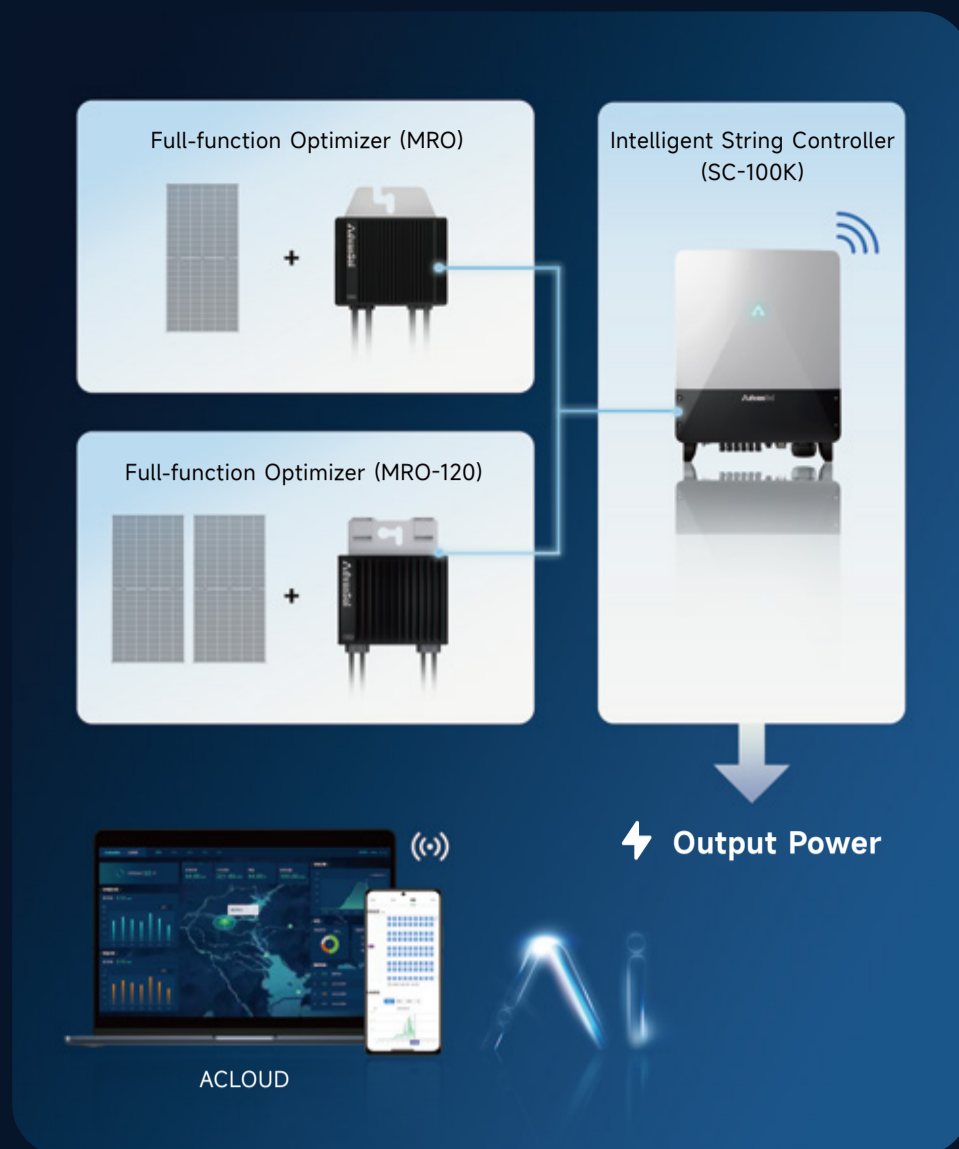
V3.0 Solution Introduction

AdvanSol pioneered the industry's first V3.0 AI Intelligent Micro-string Inverter Solution, integrating "Super Software + Super Hardware" to build a full-stack intelligent PV control system. Compared with traditional string inverters, it increases power generation by 30%, reduces system O&M costs by 50%, increases rooftop system capacity by 30%, and achieves rapid and safe DC voltage shutdown within 30 seconds.

Super Software: Based on the PV A Cloud big data platform, enabling Module Level intelligent analysis, fault prediction, and remote O&M. The system features AI learning and adaptive optimization capabilities, automatically identifying anomalies, adjusting parameters, and improving power generation efficiency.

Super Hardware: Composed of the MRO microcontroller and high-protection SC series string controller, achieving Module Level MPPT regulation and precise monitoring of each module's data. The IP65 industrial design adapts to complex environments.

The AdvanSol V3.0 solution delivers unprecedented intelligence, plant-level safety, and highly efficient O&M experience for commercial and industrial distributed PV systems.



Smart String Controller



- Offering the highest cost-performance system solution.
- Real-time AI-assisted full plant O&M.
- 30-second rapid shutdown function.
- AFCI plus Module Level RSD for ultimate safety.
- Maximum power generation, 30% higher than string inverters.
- Suitable for all types of commercial and industrial projects.

Why choose the V3.0 solution?

- V3.0 is not only Module Level safety, but also the benchmark configuration for future smart PV plants.
- V3.0 = Optimizer + String Controller + Cloud Platform, creating the real Module-Level smart PV system.
- One-stop solution for the future of PV plants.
- From initial installation, V3.0 can be upgraded once without replacement.
- All-round safety protection, simplified maintenance.
- System is scalable, supports more functions in the future.

Item	V3.0 Module Level Intelligent Safety System
System structure	String Controller + Optimizer + AI Platform
Module Level shutdown	Fast shutdown < 30s, remote shutdown
Module Level monitoring	String + Module Level AI data monitoring
Power generation optimization	Increase up to 30%, real-time optimization
O&M	Remote monitoring + rapid maintenance
Safety	High, supports AFCI
System Compatibility	Full redundancy, strong reliability
Platform Management Capability	Cloud + AI data analysis
Regulatory compliance	Meets UL1741, UL3741, IEC
Application scenario	For distributed PV, EPC projects, large PV plants
Future upgrade capability	Modular design, supports future energy upgrades

Case Study: R Series Products



Suzhou RLE Solar Project

Address: Suzhou, Wuzhong
 Installed Capacity: 462KW
 Challenge: Strict technical specifications, complex equipment selection, need to improve energy efficiency, achieve intelligent control, and reduce operational costs
 AdvanSol Solution: R Series V2.5 Solution
 Installed Units: 300 R-T2, 208 MRO, and 30 MR-T2
 Result: Solved equipment selection challenges, achieved intelligent control, significantly optimized energy consumption, and reduced operational costs

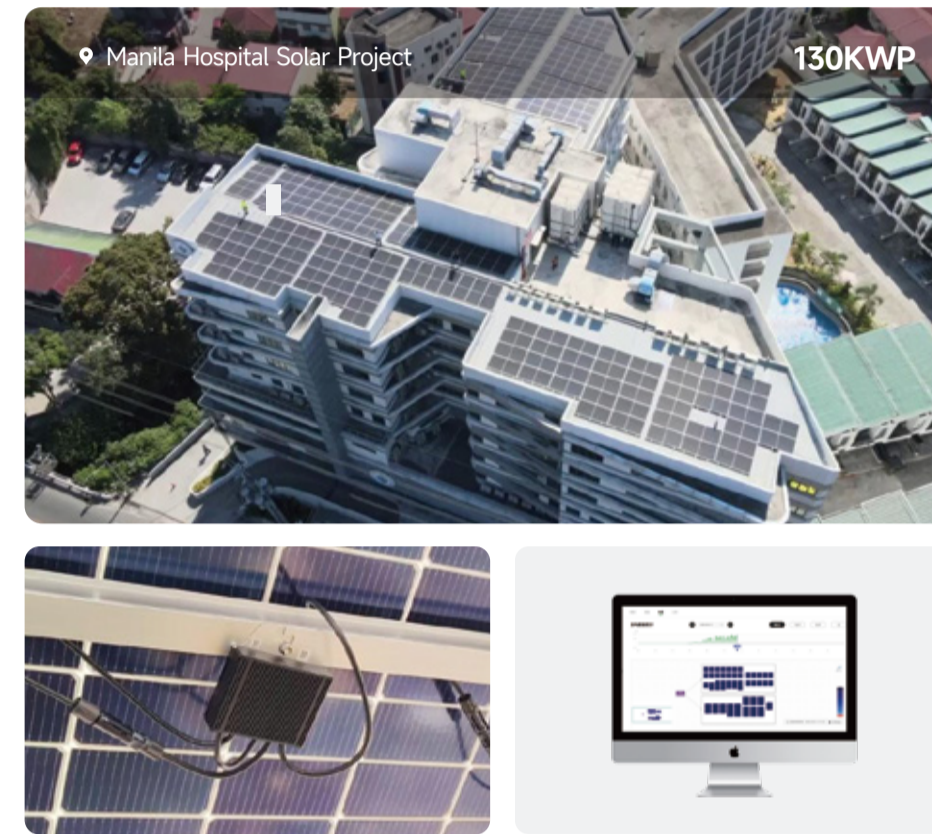
Case Study: MR Series Products



SongJiang SHJ Solar Project

Address: Shanghai, Songjiang
 Installed Capacity: 1.2MW
 Challenge: Complex maintenance and safety risks in the PV project
 AdvanSol Solution: MR Series V2.5 Solution
 Installed Units: 973 MR-T2 sets and 31 Control Boxes
 Result: Improved operation and maintenance efficiency by 50%, reduced operational costs, and enhanced system safety

Case Study: MRO Series Products



Manila Hospital Solar Project

Address: Manila, Philippines
 Installed Capacity: 130 KWp
 Challenge: Strict requirements for power continuity and stability
 AdvanSol Solution: MRO Series Products and V2.5 Solution
 Installed Units: 477 APT-MC-MRO and 6 Dcon WiFi
 Result: Provides the highest level of safety, automated fault handling reduces O&M costs by 50%, and improves O&M efficiency

Other Case Studies



R Series Products

Technical Parameters	APT-MC-R-T1	APT-MC-R-T2
Functions	Module-Level Rapid Shutdown	Module-Level Rapid Shutdown
Number of Modules Connected	1	2
Input		
Rated Input Power	800W	800W*2
Input Voltage Range	10V-80V	10V-80V*2
Max. Operating Current (Imp)	20A/25A (optional)	20A/25A (optional)
Max. Short-circuit Current (Isc)	25A/31.2A (optional)	25A/31.2A (optional)
Max. Efficiency	>99.5%	>99.5%
Output		
Max. Output Voltage	80V	160V
Max. Output Current	20A/25A (optional)	20A/25A (optional)
Bypass Output	✓	✓
Output shutdown Voltage	1V	<1.5V
Shutdown Response Time	30s	30s
Communication	PLC	PLC
Compatible Data Controller	DCON-S	DCON-S
Safety Certification		
Safety	UL1741/CSA C22.2 NO.1071/CSA C22.2 NO.330 comply with NEC Code Article 690.12 module-level shutdown characteristics	FCC part 15b
EMC	✓	✓
RoHS Certification	✓	✓
General Parameters		
Dimensions (L x W x D)	144x50x16.9 mm	143x62x19.5 mm
Weight (Including Cables)	0.45KG	0.76KG
Input and Output Terminals	Compatible with MC4/MC4 (Customized)	Compatible with MC4/MC4 (Customized)
Length of Output Cable	OUT: +770-770IN: +770-260	OUT: +1300-1500 PV1: +950-200 PV2: +200-950
Operating Temperature Range	-40~85°C	-40~85°C
Humidity Range	0%-100%	0%-100%
Protection Rating	IP68	IP68
Max. System Voltage	1500V	1500V

MR Series Products

Technical Parameters	APT-MC-MR-T2
Functions	Module-Level Monitoring / Rapid Shutdown
Number of Modules Connected	2
Input	
Rated Input Power	800W*2
Input Voltage Range	12V-80V*2
Max. Operating Current (Imp)	20A
Max. Short-circuit Current (Isc)	25A
Output	
Max. Output Voltage	160V
Max. Output Current	20A
Bypass Output	✓
Output shutdown Voltage	<1.5V
Shutdown Response Time	30s
Communication	
Communication Mode	PLC
Communication Rate	200k-1M/s Self-Adaptive
Compatible Data Controller	DCON-4CIS(M/L), DCON-WIFI(S/M/L)
Safety Certification	
Safety	UL1741/CSA C22.2 NO.1071/CSA C22.2 NO.330 comply with NEC Code Article 690.12 module-level shutdown characteristics
EMC	FCC part 15b
RoHS Certification	✓
General Parameters	
Dimensions (L x W x D)	145 x 62 x 19.5 mm
Weight (Including Cables)	0.76KG
Input and Output Terminals	Compatible with MC4 (MC4 /Customized)
Length of Output Cable	OUT: +1300-1500 PV1: +950-200 PV2: +200-950
Operating Temperature Range	-40~85°C
Humidity Range	0%-100%
Protection Rating	IP68
Max. System Voltage	1500V

MRO Series Products

Technical Parameters	APT-MC-MRO	APT-MC-MRO-120
Functions	Module-Level MPPT Optimization / Monitoring / Rapid Shutdown	Module-Level MPPT Optimization / Monitoring / Rapid Shutdown
Number of Modules Connected	1	2
Input		
Rated Input Power	800W	1600W
Max. Input Voltage	80V	120V
MPPT Operating Range	12V-80V	15V-120V
Max. Operating Current (Imp)	22A	22A
Max. Short-circuit Current (Isc)	25A	25A
Max. Efficiency	99.5%	99.5%
Output		
Max. Output Voltage	80V	80V
Max. Output current	22A	22A
Bypass Output	✓	✓
Output Shutdown Voltage	<1V	<2V
Shutdown Response Time	30s	30s
Communication		
Communication Mode	PLC	PLC
Communication Rate	200k-1M/s Self-Adaptive	200k-1M/s Self-Adaptive
Compatible Data Controller	DCON-4CIS(M/L), DCON-WIFI(S/M/L)	DCON-4CIS(M/L), DCON-WIFI(S/M/L)
Safety Certification		
Safety	UL1741/CSA C22.2 NO.1071/CSA C22.2 NO.330 comply with NEC Code Article 690.12 module-level shutdown characteristics	UL1741/CSA C22.2 NO.1071/CSA C22.2 NO.330 comply with NEC Code Article 690.12 module-level shutdown characteristics
EMC	FCC part 15b	FCC part 15b
RoHS Certification	✓	✓
General Parameters		
Dimensions (L x W x D)	123.8 x 112x27 mm	133.8 x 115 x 37 mm
Weight (Including Cables)	0.66KG	0.86KG
Input and Output Terminals	Compatible with MC4 (MC4 /Customized)	Compatible with MC4 (MC4 /Customized)
Length of Output Cable	OUT: +770-770IN: +770-260	OUT: +1400-1400IN: +1200-1200
Operating Temperature Range	-40~85°C	-40~85°C
Humidity Range	0%-100%	0%-100%
Protection Rating	IP68	IP68
Max. System Voltage	1000V/1500V	1000V/1500V

V2.5 CONTROL BOX DCON/DCON-S

Technical Parameters	APT-CB-DS	APT-CB-D-4G-S/M/L	APT-CB-D-WIFI-S/M/L
Data Controller	DCON-S	DCON-4G	DCON-WIFI
Communication Protocol	WiFi	4G	WiFi
Communication Mode with PLC	PLC	PLC	PLC
Module-Level Micro Controller			
Max. Number of supported strings	12strings	4/12/20strings	4/12/20strings
Power supply	220AC	220AC	220AC
Communication Interval	5min	5min	5min
Local Data Storage Time	7Days	7Days	7Days
Debugging mode			
Working Ambient Temperature	-20°C~65°C	-20°C~65°C	-20°C~65°C
Cooling	Natural Cooling	Natural Cooling	Natural Cooling
Dimensions (L x W x D)	300x200x170 mm	300x200 x170 mm	300 x200 x170 mm
		400 x300 x170 mm	400 x300 x170 mm
		500x400x200 mm	500x400x200 mm
Protection Rating	IP65	IP65	IP65

V2.5 CONTROL BOX ASP

Technical Parameters	APT-CB-D-ASP-(S/L)
Data Controller	4G-Version
Communication Protocol	4G
Communication Mode with Module-Level Micro Controller	PLC
Maximum Supported Strings	4 Strings (ASP-S)
	12 Strings (ASP-L)
Power Supply	
Power Supply	220AC
Data Acquisition Interval	5min
Local Data Storage Duration	7days
Debugging Method	Web Server / Local Serial Debugging
Operating Ambient Temperature	-20°C~65°C
Cooling	Natural Cooling
Dimensions (L x W x H)	350*200*160 mm(ASP-S)
	400*350*170 mm(ASP-L)
Protection Level	IP65

Smart Cloud Platform ACloud

Function	WEB	APP	
Home page	Power generation overview	✓	
	Statistics	✓	
	Power station list	✓	
	Power station operation	✓	
	Power station map	✓	
	Alarm prompt	✓	
	Device tree diagram	✓	
	Power station overview	✓	
	Equipment statistics	✓	
	Emergency stop and reset	✓	
Monitoring	Equipment upgrade	✓	
	Power station layout diagram	✓	
	Log information	✓	
	String controller data	✓	
	Date controller data	✓	
	Micro controller data	✓	
	Historical data	✓	
	Alarm display	✓	
	System	Firmware management	✓
		Permission management	✓

Smart String Controller

Technical Parameters	APT-SC100K
DC Input	
Max. Input Power	154000W
Max. Input Voltage	1100V
Max. Input Current	30A
Max. Short circuit Current	50A
Ac output	
Rated output Power	100000VA
Max. Output Power	120000VA
Rated output Voltage	400/380.3W/PE/AV/PE
Output Voltage Frequency	50HZ/60HZ
Max. Output Current	180A (perphase)
Power Factor Range	-1 (0.8lead..0.8lag)
THDI	<3%
Efficiency	
Max. Efficiency	98.80%
CEC Efficiency	98.40%



Acloud App