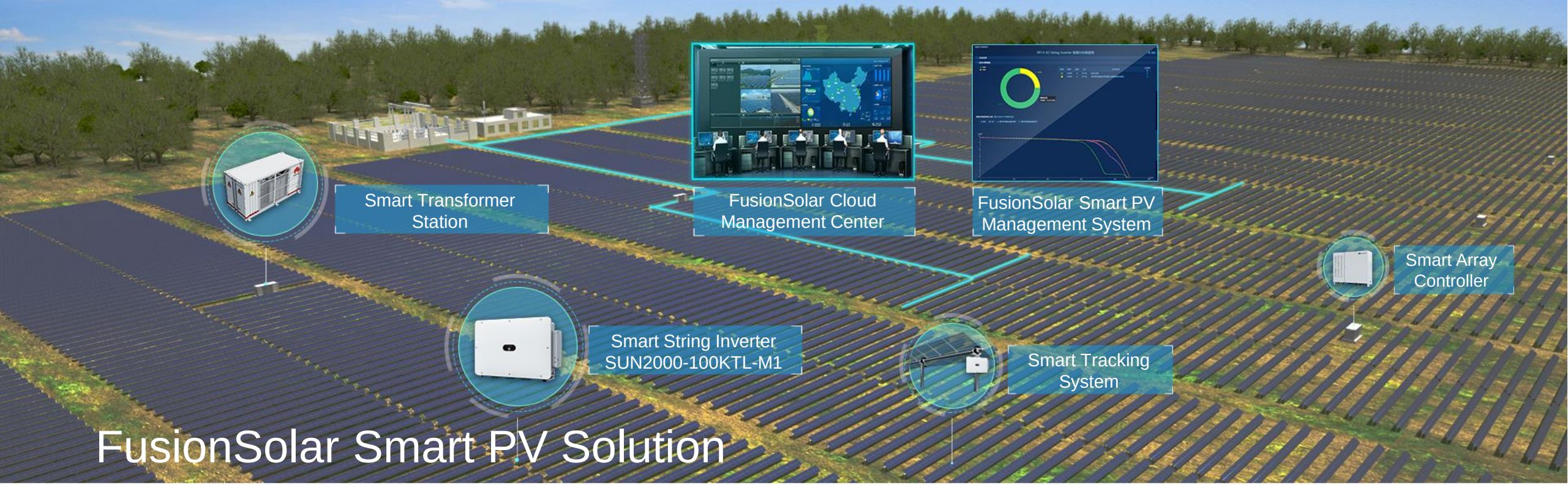
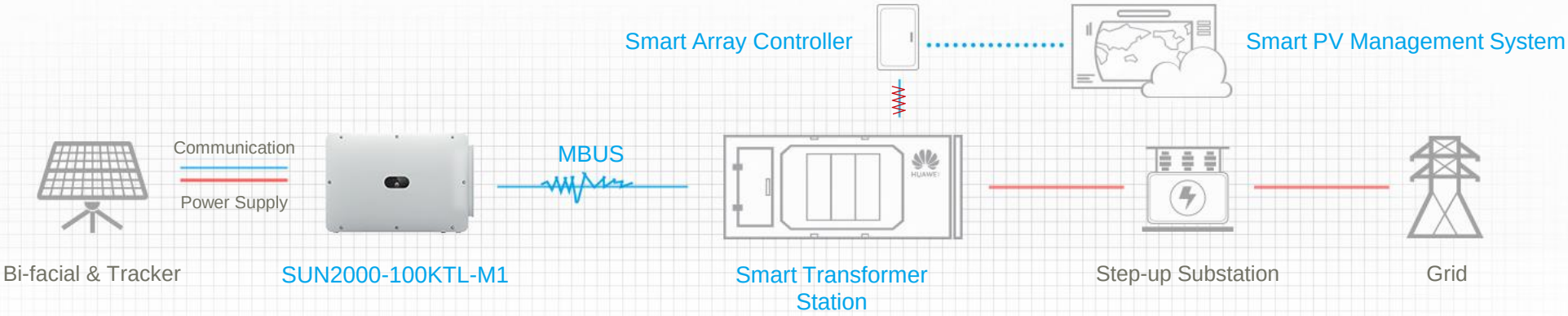
FusionSolar Smart PV Solution

SUN2000-100KTL-M1

HUAWEI



FusionSolar Smart PV Solution

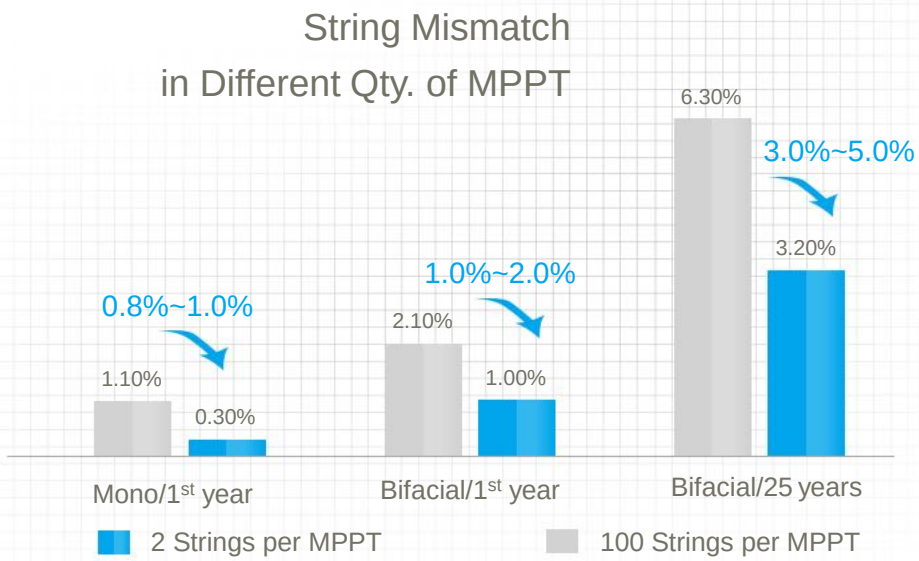


SUN2000-100KTL-M1

Nominal Output Power **100,000 W**	Max. Apparent Power **110,000 VA**
Max. Input Voltage **1,100 V**	Max. Input Current **26 A / MPPT**
MPPT **10**	MPPT Voltage Range **200 ~ 1,000 V**
Communication **MBUS**	Protection Degree **IP66**

10 x MPPTs

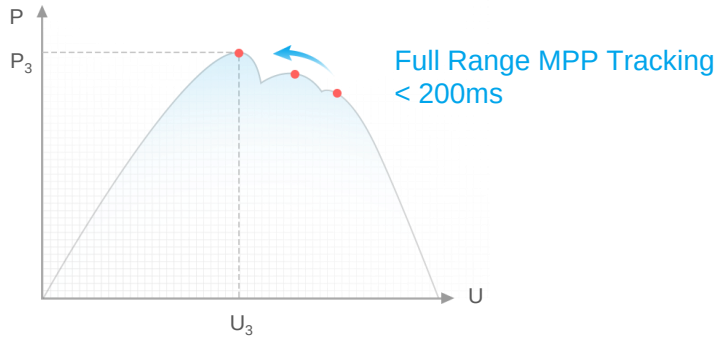
Effectively Reducing String Mismatch for Higher Yields



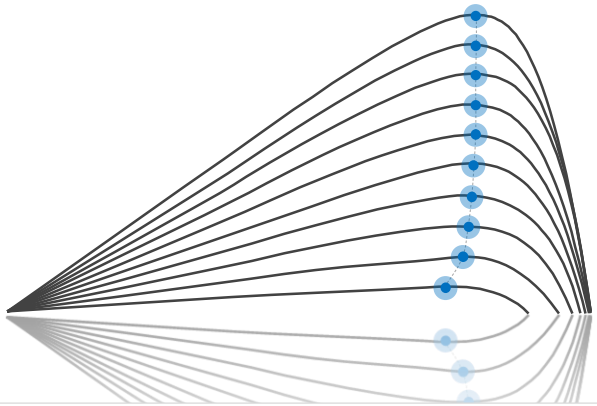
Smart MPP Tracking Algorithm

Smarter & Faster Multi-peak Tracking for Higher Yields

Multi-peak tracking



Fast MPP Tracking when solar radiation vary



Smart Multi-peak MPPT Algorithm

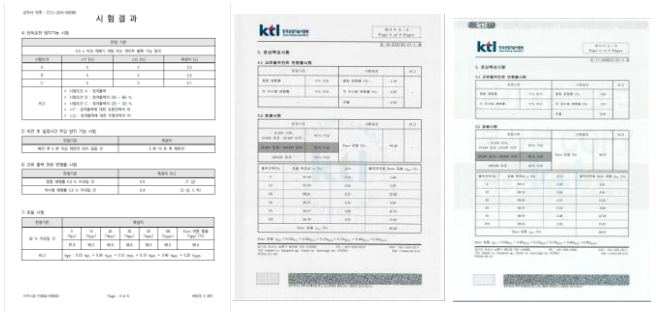
- Auto Identification of Multi Peak
- Milliseconds Tracking via Huawei Patented Algorithm
- Static MPPT Efficiency >99.9%, Dynamic MPPT Efficiency >99.69%

3rd Party Test Verifying the Inverter Efficiency Authenticity

manufacturers with inflated efficiency resulting customers' yield loss

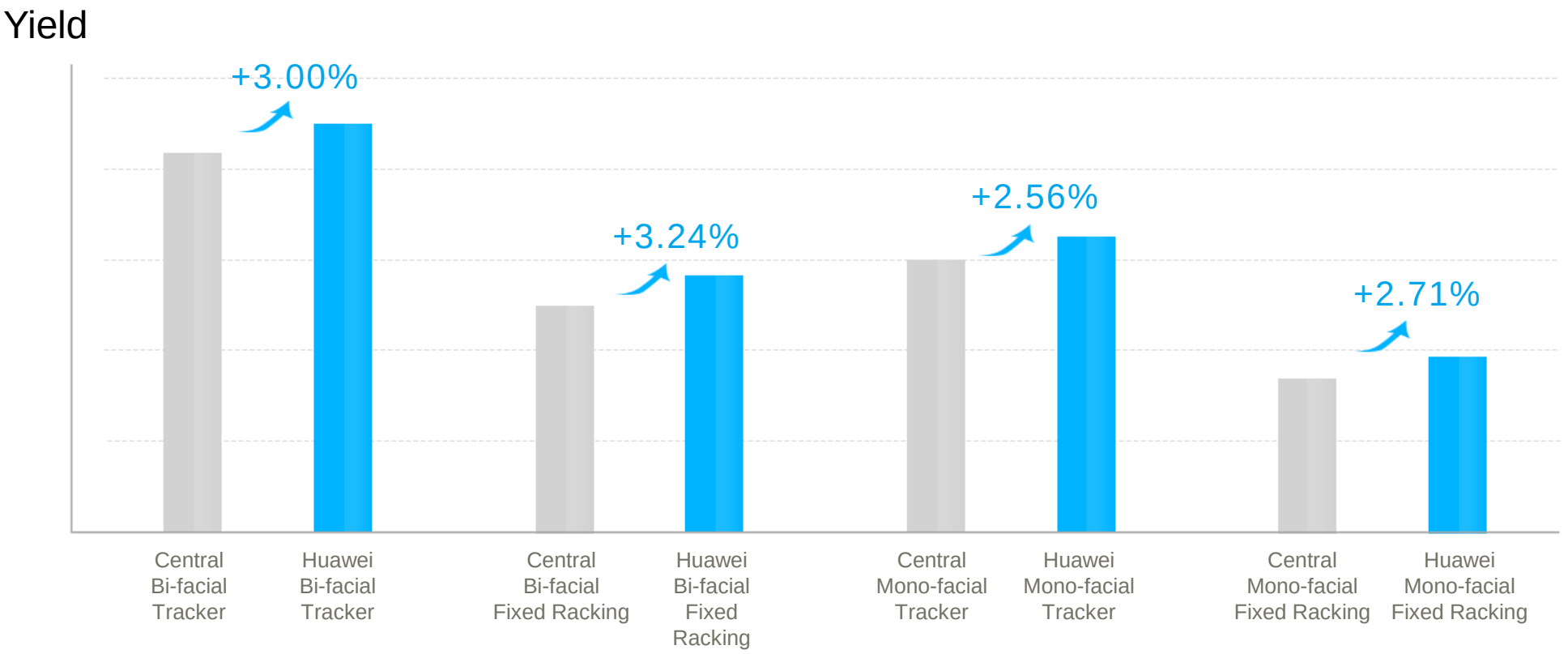
				Brand SXX			Brand 1	Brand 2
Model/Power	100kW	50kW	36kW	110kW	50kW	33kW	100kW	60kW
Euro Eff. on Datasheet	98.4%	98.5%	98.6%	98.5%	98.5%	98.3%	98.2%	98.0%
Euro Eff. from 3rd Party	**98.4%**	**98.48%**	**98.57%**	**97.91%**	**98.02%**	**97.4%**	**97.95%**	**97.9%**
Difference	**0**	**0.02%**	**0.03%**	**0.59%**	**0.48%**	**0.90%**	**0.25%**	**0.1%**

Inflated Efficiency



3% Higher Yields

FusionSolar Smart PV Solution + Bi-facial



Inverter

Huawei Inverter vs SXX Central Inverter

PV Module

TXX 395W Bi-facial vs TXX 335W Mono-facial

Simulation Location

Seville, Spain

High Reliability

Fuse-free Design Eliminating Fire Risk from the Source

Why fuse is required?

The DC side short circuit can cause reverse current, which may damage the module and inverter. The fuse shall be fused in time for protection.

Potential Fire Hazard with Fuse

The fuse is fused at high temperature. In case of short circuit, if the fuse cannot be fused in a short time, the continuous high heat can burn the inverter and cause a fire.

Huawei Fuse-free Design Eliminating Fire Risk

2 strings in 1 MPPT, reverse current being <11A, harmless to module and inverter, no fuse required

High Reliability

IP66 Fully-sealed Design

IP66

- 6 → Protected against strong jets of water
- 6 → Totally protected against dust

Best-match severe environment

High Reliability

25yrs Lifespan

Self-development + Joint Innovation
Complete Reliability Test
Guarantee 25yrs Lifespan

Self-development

Hisilicon Chipset

LiteOS

IoT OS

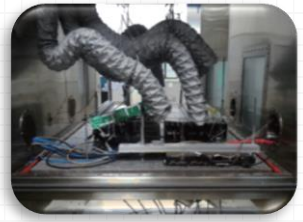
Joint Innovation

Power Module

Comprehensive Reliability Test

Temperature Test

Dust Test



HALT

Salt Mist

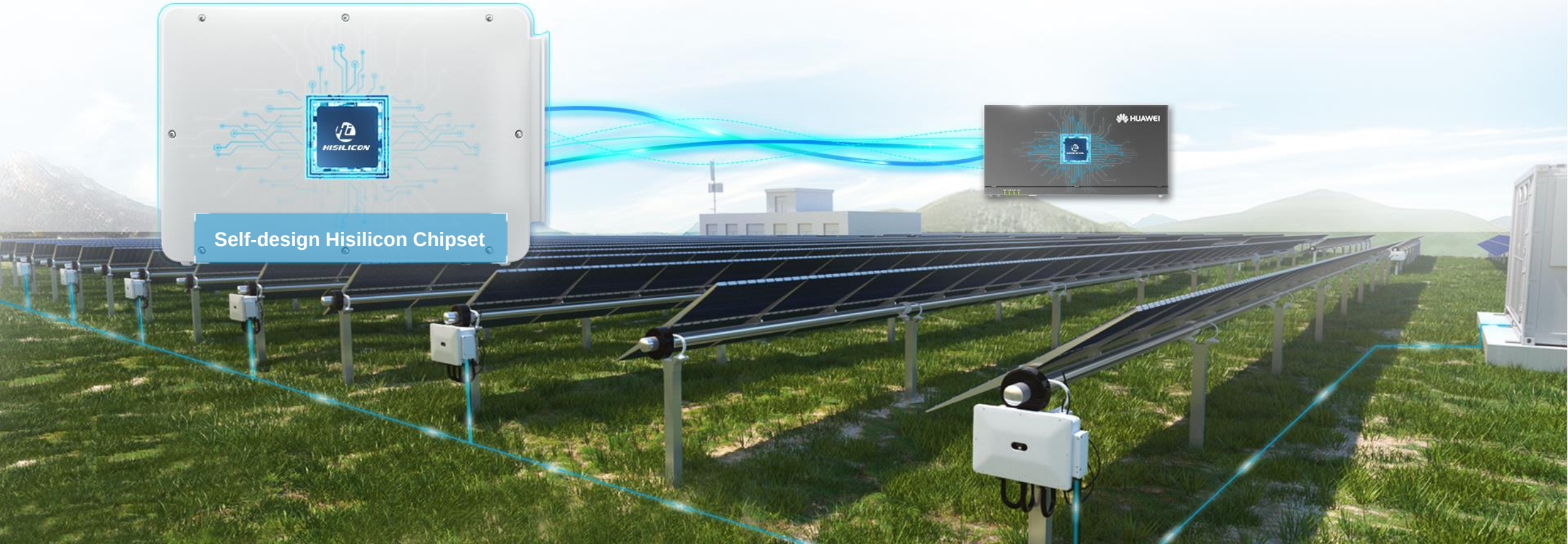
Solar Radiation

Corrosive Gas

More……

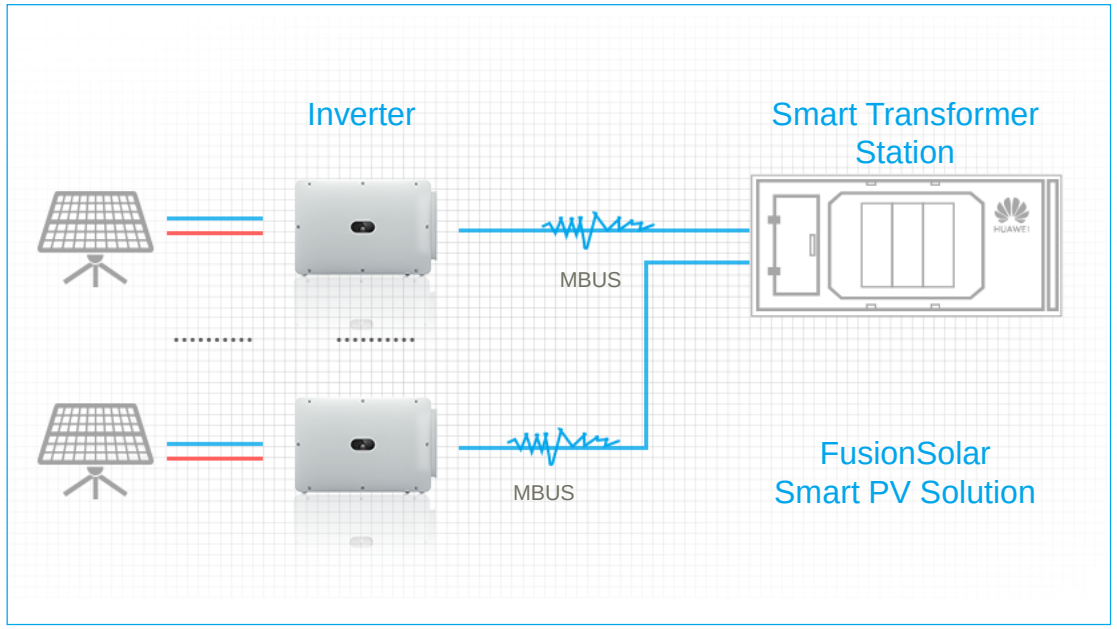
MBUS Replacing RS485 Cable for More Reliable Data Transmission

No RS485 Cable Required, Data Transmission via AC Cable
Communication Distance up to 1,000m for Larger Blocks
Robust & High Reliability with 0-touch Maintenance

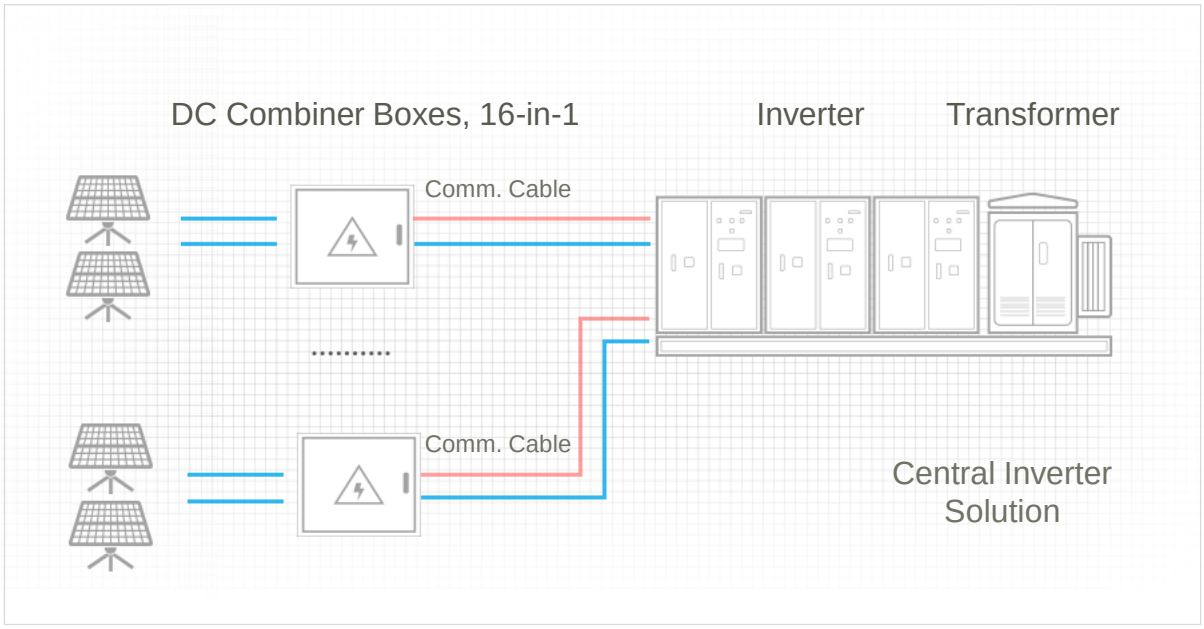


Simple Design

No DC/AC Combiner Boxes, Built-in DC & AC Surge Arresters



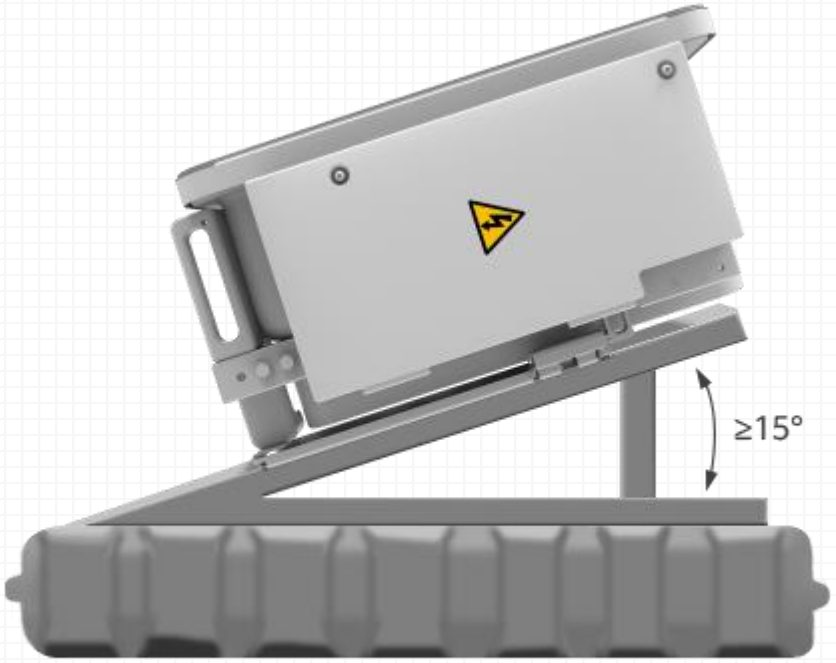
- 20 x SUN2000-100KTL-M1
- 1 x 2MVA Transformer



- 25 x 16-in-1 DC Combiner Box
- 2 x Central Inverter
- 1 x 2MVA Transformer
- 500m x Communication Cable

Easy Installation

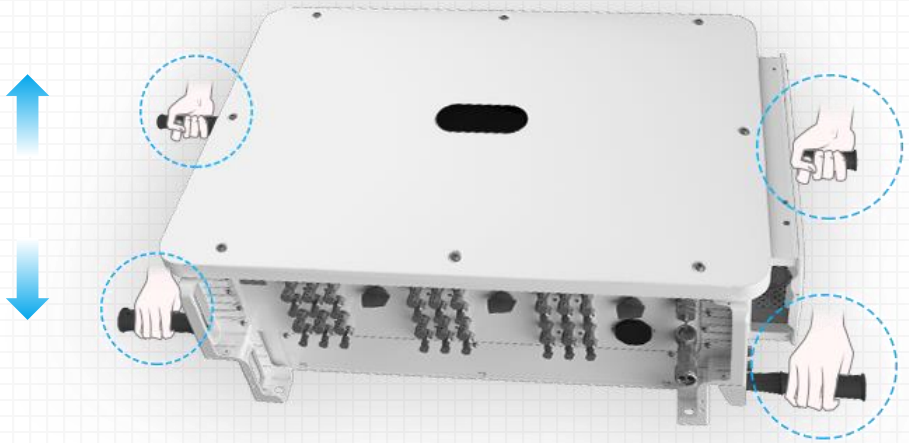
Support >15°Horizontal Installation



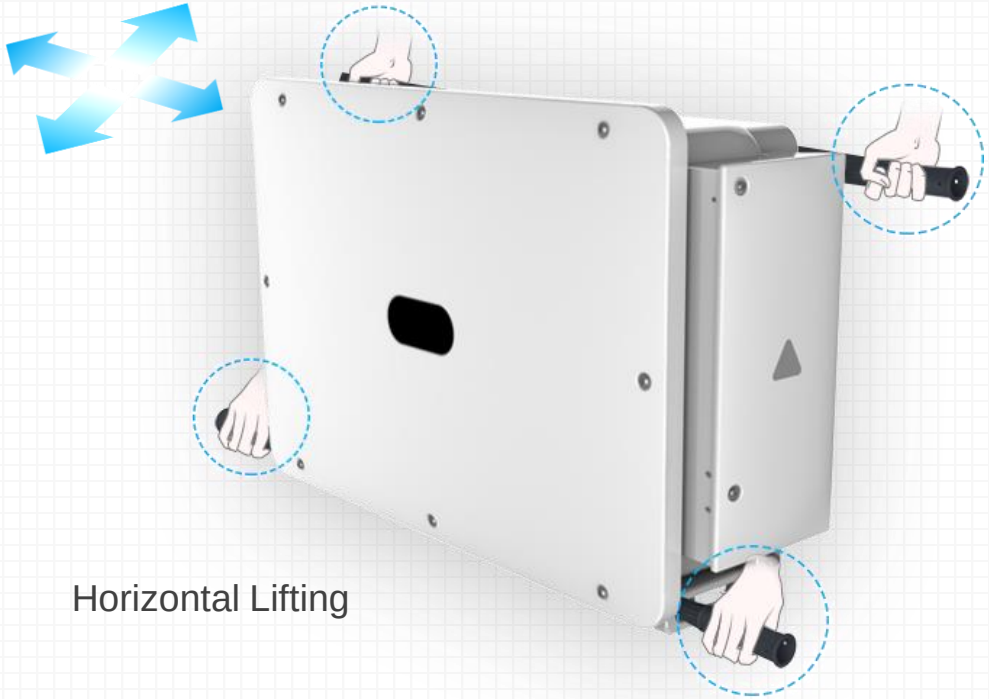
Easier installation on floating body for floating PV plant

Easy Carrying

Four Optional Handles for Convenient Lifting



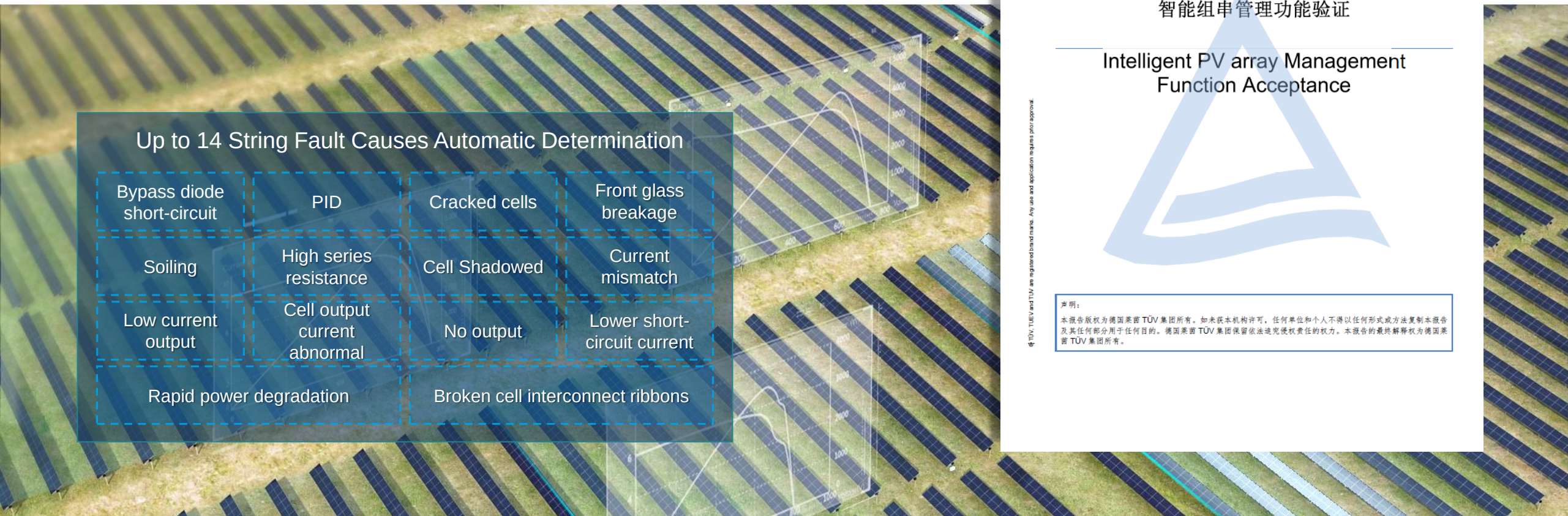
Vertical Lifting



Horizontal Lifting

TUV Certified Smart I-V Curve Diagnosis 3.0, Global Application over 5GW

- Remote & On-line Diagnosis, Avoiding Yield Loss
- One-click Start, No Professional Device Required
- 15min for 100MW Plant 100% Full-load Diagnosis
- Up to 14 String Fault Causes Automatic Determination, Providing Recovery Advice
- Compatible with Bi-facial Module



Up to 14 String Fault Causes Automatic Determination

Bypass diode short-circuit	PID	Cracked cells	Front glass breakage
Soiling	High series resistance	Cell Shadowed	Current mismatch
Low current output	Cell output current abnormal	No output	Lower short-circuit current
Rapid power degradation		Broken cell interconnect ribbons	

TÜVRheinland®

光伏电站测试报告

PV Plant Test Report

智能组串管理功能验证

Intelligent PV array Management Function Acceptance

声明：

本报告版权为德国莱茵TÜV集团所有。如未获本机构许可，任何单位和个人不得以任何形式或方法复制本报告及其任何部分用于任何目的。德国莱茵TÜV集团保留依法追究侵权责任的权力。本报告的最终解释权为德国莱茵TÜV集团所有。

Pinpoint Module Fault, Avoiding >5% Yield Loss

Jiangsu 10MW Solar + Fishery PV plant
(approx. 1,600 strings)

String Information			
24 PV modules per string; Monocrystalline module		24 PV modules per string; polycrystalline module	
Pmax (Wp)	280	Pmax (Wp)	275
Vm (V)	32.50	Vm (V)	31.10
Im (A)	8.62	Im (A)	8.48
Voc (V)	39.30	Voc (V)	38.40
Isc (A)	9.39	Isc (A)	9.21

103 faulty strings being located; majority faulty reasons being birds droppings and glass breakage

Birds Droppings

Fault Cause Determination

String Faulty Rate 6.41%

Qty. of total string = 1608		
String description	Qty.	% of total string
Normal	1505	93.59%
PV module output current abnormal (shade/glass breakage/hidden crack)	65	4.04%
Current mismatch in the PV string	18	1.12%
PV module with hidden crack or hot-spot	17	1.06%
PV string voltage abnormal	2	0.12%
PV string open circuit	1	0.06%

Array	Inverter	String	Qty	Description	Action
1#Array	INV1	1	1	PV module output current abnormal (shade/glass breakage/hidden crack)	Birds droppings being found and cleaned
3#Array	INV3	7	1	Current mismatch in the PV string	Birds droppings being found and cleaned
	INV4	7/8	2	PV string voltage abnormal	PV module being removed for test and being re-installed
4#Array	INV2	2	1	PV string open circuit	String 2 connectors being burnt and replaced
	INV4	7	1	PV module output current abnormal (shade/glass breakage/hidden crack)	Birds droppings being found and cleaned
	INV5	7	1	PV module output current abnormal (shade/glass breakage/hidden crack)	Birds droppings being found and cleaned
5#Array	INV1	6	1	PV module with hidden crack or hot-spot	Birds droppings being found and cleaned
6#Array	INV1	2/4/7	3	Current mismatch in the PV string	Shading from trees being found and trees being felled
	INV3	3	1	PV module output current abnormal (shade/glass breakage/hidden crack)	Birds droppings being found and cleaned
7#Array	INV1	3	1	PV string open circuit	PV module being removed for test and being re-installed

愿景和使命

把数字世界带入每个人、每个家庭、每个组织，

构建万物互联的智能世界

Bring digital to every person, home and organization

for a fully connected, intelligent world