

DEEP BLUE 3.0

Mono

550W MBB Bifacial Mono PERC Half-cell Double Glass Module

JAM72D30 525-550/MB Series

Introduction

Assembled with 11BB bifacial PERCIUM cells and half-cell configuration, these double glass modules have the capability of converting the incident light from the rear side together with the front side into electricity, providing higher output power, lower temperature coefficient, less shading loss, as well as enhanced tolerance for mechanical loading.



Higher output power



More reliable, more stable
power generation



Less shading effect

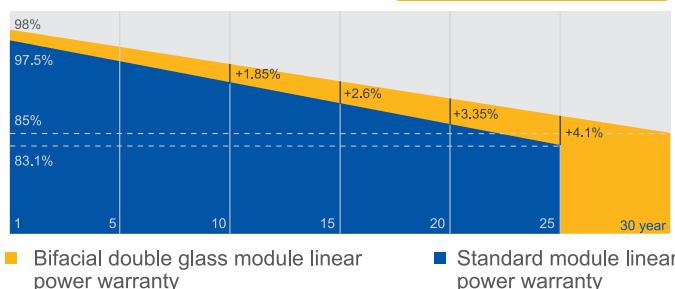


Lower temperature coefficient

Superior Warranty

- 12-year product warranty
- 30-year linear power output warranty

0.45% Annual Degradation
Over 30 years



Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



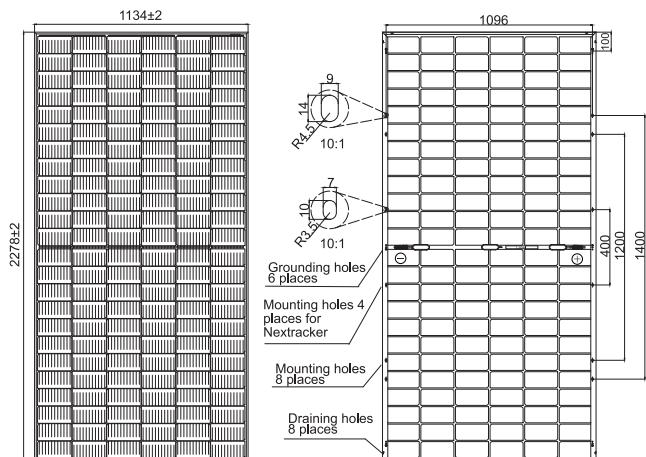
JA SOLAR

www.jasolar.com

Specifications subject to technical changes and tests.
JA Solar reserves the right of final interpretation.



MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	31.6kg±3%
Dimensions	2278±2mm×1134±2mm×35±1mm
Cable Cross Section Size	4mm ² (IEC), 12 AWG(UL)
No. of cells	144(6×24)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-35
Cable Length (Including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1300mm(+)/1300mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Packaging Configuration	31pcs/Pallet 620pcs/40HQ Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM72D30 -525/MB	JAM72D30 -530/MB	JAM72D30 -535/MB	JAM72D30 -540/MB	JAM72D30 -545/MB	JAM72D30 -550/MB
Rated Maximum Power(Pmax) [W]	525	530	535	540	545	550
Open Circuit Voltage(Voc) [V]	49.15	49.30	49.45	49.60	49.75	49.90
Maximum Power Voltage(Vmp) [V]	41.15	41.31	41.47	41.64	41.80	41.96
Short Circuit Current(Isc) [A]	13.65	13.72	13.79	13.86	13.93	14.00
Maximum Power Current(Imp) [A]	12.76	12.83	12.90	12.97	13.04	13.11
Module Efficiency [%]	20.3	20.5	20.7	20.9	21.1	21.3
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α_{Isc})	+0.045%/°C					
Temperature Coefficient of Voc(β_{Voc})	-0.275%/°C					
Temperature Coefficient of Pmax(γ_{Pmp})	-0.350%/°C					
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

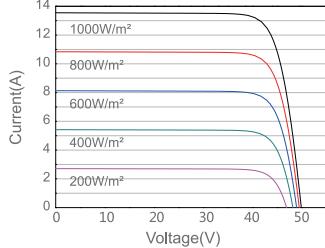
ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO						OPERATING CONDITIONS		
TYPE	JAM72D30 -525/MB	JAM72D30 -530/MB	JAM72D30 -535/MB	JAM72D30 -540/MB	JAM72D30 -545/MB	JAM72D30 -550/MB	Maximum System Voltage	1500V DC
Rated Max Power(Pmax) [W]	562	567	572	578	583	589	Operating Temperature	-40°C~+85°C
Open Circuit Voltage(Voc) [V]	49.54	49.67	49.80	49.93	50.03	50.21	Maximum Series Fuse Rating	30A
Max Power Voltage(Vmp) [V]	41.14	41.31	41.47	41.65	41.78	41.95	Maximum Static Load,Front*	5400Pa(112 lb/ft ²)
Short Circuit Current(Isc) [A]	14.61	14.68	14.76	14.83	14.91	14.98	NOCT	45±2°C
Max Power Current(Imp) [A]	13.65	13.73	13.80	13.88	13.95	14.03	Bifaciality**	70%±10%
Irradiation Ratio(rear/front)	10%						Fire Performance	UL Type 29

*For Nextracker installations, Maximum Static Load, Front is 2400Pa while Maximum Static Load, Back is 2400Pa.

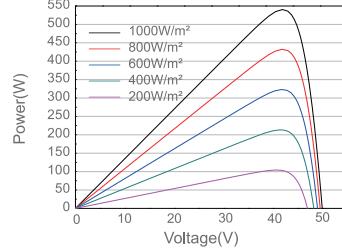
**Bifaciality=Pmax,rear/Rated Pmax,front

CHARACTERISTICS

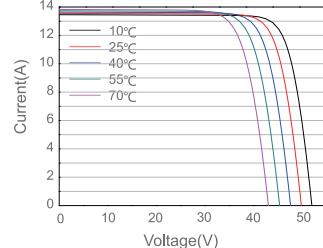
Current-Voltage Curve JAM72D30-540/MB



Power-Voltage Curve JAM72D30-540/MB



Current-Voltage Curve JAM72D30-540/MB



SG250HX New

Multi-MPPT String Inverter for 1500 Vdc System

SUNGROW
Clean power for all

SG250HX



HIGH YIELD

- 12 MPPTs with max. efficiency 99%
- Compatible with bifacial module
- Built-in Anti-PID and PID recovery function



SMART O&M

- Touch free commissioning and remote firmware upgrade
- Online IV curve scan and diagnosis*
- Fuse free design with smart string current monitoring

LOW COST

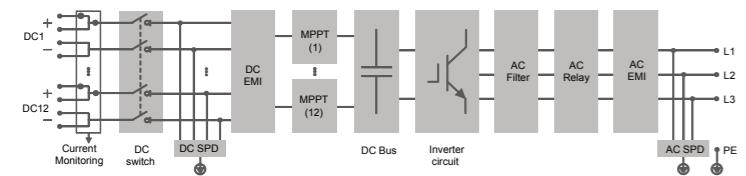
- Compatible with Al and Cu AC cables
- DC 2 in 1 connection enabled
- Power line communication (PLC)
- Q at night function



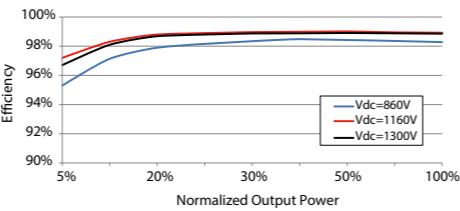
PROVEN SAFETY

- IP66 and C5 protection
- Type II SPD for both DC and AC
- Compliant with global safety and grid code

CIRCUIT DIAGRAM



EFFICIENCY CURVE



Type designation	SG250HX
Input (DC)	
Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	600 V / 600 V
Nominal PV input voltage	1160 V
MPP voltage range	600 V - 1500 V
MPP voltage range for nominal power	860 V - 1300 V
No. of independent MPP inputs	12
Max. number of input connectors per MPPT	2
Max. PV input current	26 A * 12
Max. current for input connector	30 A
Max. DC short-circuit current	50 A * 12
Output (AC)	
AC output power	250 kVA @ 30 °C / 225 kVA @ 40 °C / 200 kVA @ 50 °C
Max. AC output current	180.5 A
Nominal AC voltage	3 / PE, 800 V
AC voltage range	680 - 880 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 - 55 Hz, 60 Hz / 55 - 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % In
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading - 0.8 lagging
Feed-in phases / connection phases	3 / 3
Efficiency	
Max. efficiency	99.0 %
European efficiency	98.8 %
Protection	
DC reverse connection protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
DC switch	Yes
AC switch	No
PV String current monitoring	Yes
Q at night function	Yes
PID protection	Anti-PID or PID recovery
Overshoot protection	DC Type II / AC Type II
General Data	
Dimensions (W*H*D)	1051 * 660 * 363 mm
Weight	95kg
Isolation method	Transformerless
Ingress protection rating	IP66
Night power consumption	< 2 W
Operating ambient temperature range	-30 to 60 °C
Allowable relative humidity range (non-condensing)	0 - 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating)
Display	LED, Bluetooth+APP
Communication	RS485 / PLC
DC connection type	Amphenol UTX (Max. 6 mm ²)
AC connection type	OT terminal (Max. 300 mm ²)
Compliance	IEC 62109, IEC 61727, IEC 62116, IEC 60068, IEC 61683, VDE-AR-N 4110:2018, VDE-AR-N 4120:2018, IEC 61000-6-3, EN 50549, UNE 206007-1:2013, P.O.12.3, UTE C15-712-1:2013
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control

*: Only compatible with Sungrow logger and iSolarCloud



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STInorland

STI-H250™
Dual-Row Tracker



Index

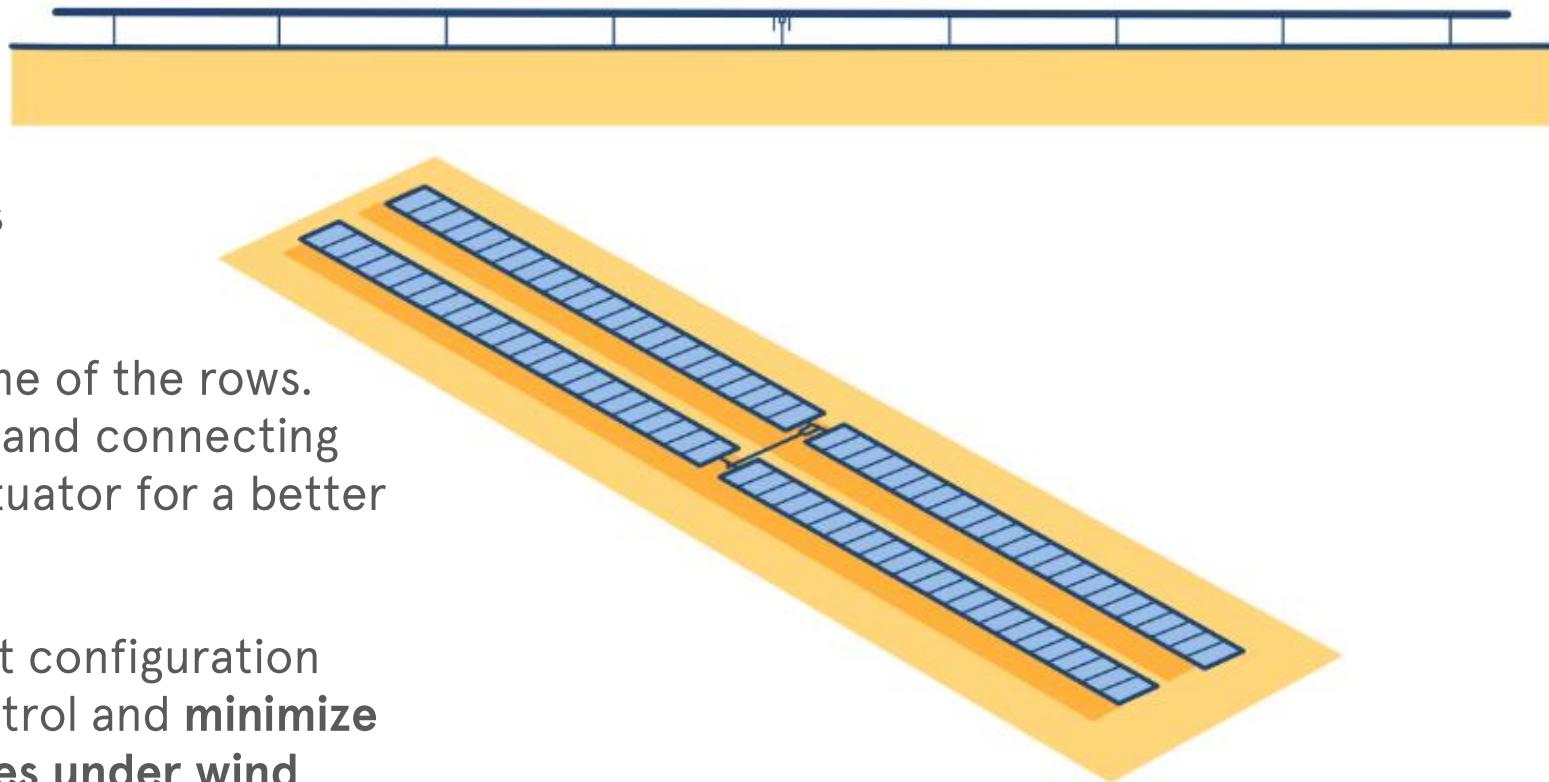
1. Description
2. Configuration
3. Technical data
4. Structure
5. Motor-Actuator
6. Communications
7. Advantages

Dual-row tracker

STI-H250™ is a **horizontal single-axis solar tracker with two rows**.

The motor and the actuator are in one of the rows. The second row is moved by an arm and connecting rods located at both sides of the actuator for a better stability.

Designed for PV modules in 1 portrait configuration instead of 2 portrait, in order to control and **minimize the risk associated to torsional forces under wind loads**. Much more robust approach according to our values.



Configurations

Recommended configuration:

In case of strings of 20 modules: 1V x 20+20+20

In case of strings of 30 modules: 1V x 30+30

Other possible configurations:

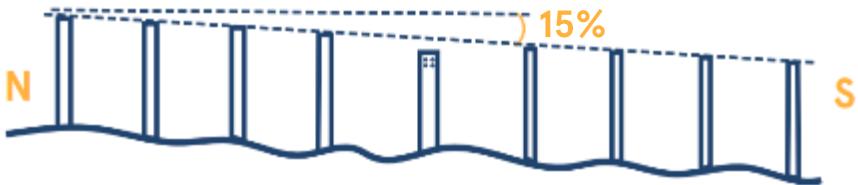
In case of strings of 21 modules: 1V x 32+31

In case of strings of 31 modules: 1V x 31+31

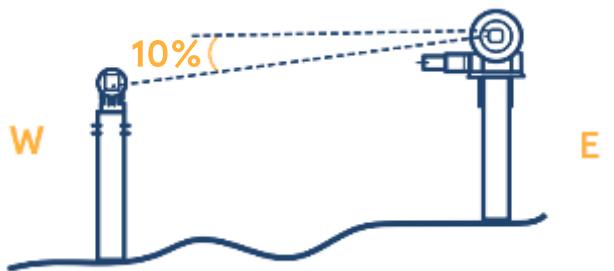


Technical Data

- Max. slope N-S: 15%



- Max. slope E-W between two rows on the same tracker: 10%

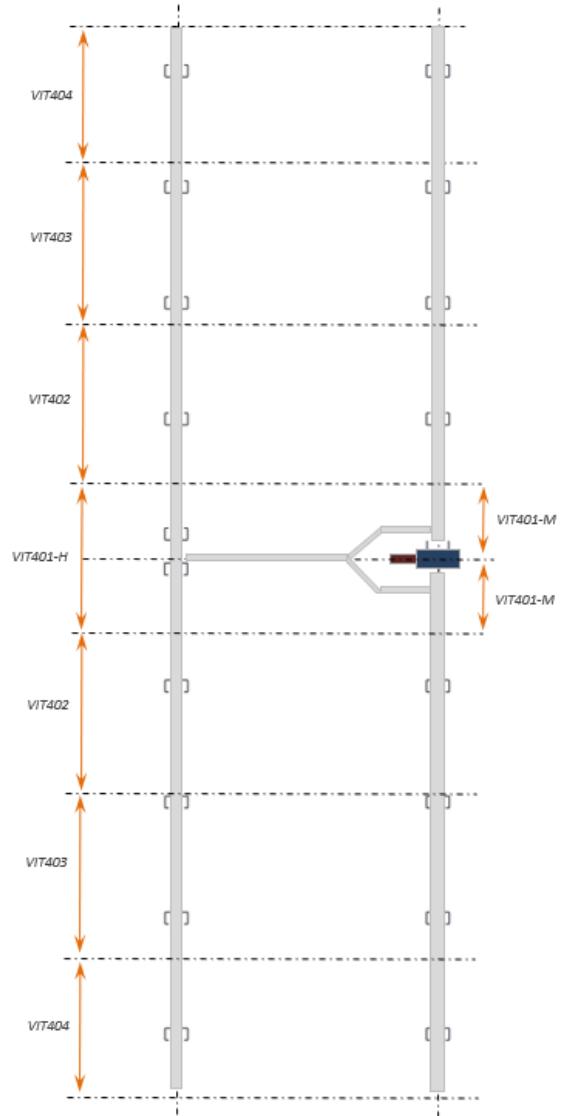


- Max. slope difference in N-S direction between two rows on the same tracker: 2%
- Max. slope E-W between two trackers: unrestricted

- Axis height: 1,200 mm (modules at 1,250 mm)
- Tilt: $\pm 55^\circ$
- Max. wind speed at 25° position windward: 150 km/h (can be adapted to other site conditions)
- Ground clearance: 450 mm (configurable)
- Distance between same tracker rows (Pitch): 4–8 m
- Operation temperatures from -10° to $+50^\circ$ (Celsius). Other options available
- Power supply: wired, self-powered with dedicated solar panel
- Communications: Wired or Wireless (Zigbee)

Structure

1. Supports, torsion beams and regulation components: Hot Dip Galvanized steel
2. Belts, module support: pre-galvanized steel or Magnelis
3. Structural bolts (including U bolts): Geomet 500D or Zinc-Nickel alloy
4. Bolts for modules: stainless steel with Precote®
5. Corrosion resistance: as per site needs/client request: C1 to C5
6. Foundations can be adapted as per geotechnical conditions. Available options include direct ramming, pre-drilling, micro piles, screws or ballasted.



Structure

7. Mounting tolerances:

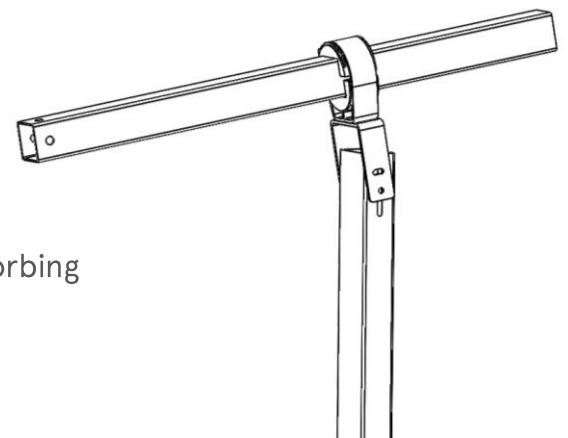
7.1. Plumbness N-S : $\pm 2^\circ$

7.2. Plumbness E-W: $\pm 1^\circ$

7.3. Max. Rotation: $\pm 3^\circ$

7.4. Height N-S: 40 mm SOP001, 50 mm SOP002 respect SAC001

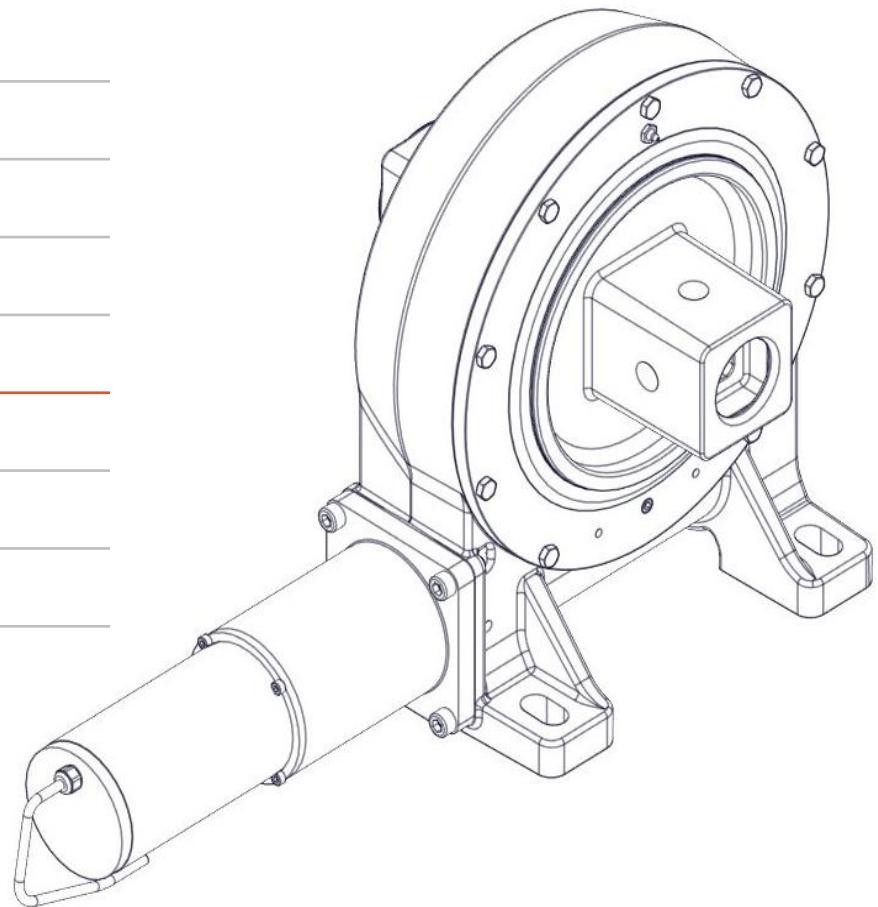
7.5. Height E-W: 40 mm SOP001, 50 mm SOP002 respect SAC001

**Rotation and Regulation Set**

Allows the torque tube to turn while absorbing the installation deviations of the posts.

Motor-actuator

	Rated voltage	24 DC
	Rated speed	1,500 rpm
	Rated current	6 A
	Rated power	65 W
	IP class	66
Motor-gear	Max. holding torque	45 KNm
	Tracking time from 55° to 0°	5.1 minutes
	Lubrication	Grease
Slewing wheel	IP class	65



Motor-actuator

Item 1	Item 2	Size	Grade	Protection
Drive regulation plate (PRE002)	I-BEAM (SAC001)	8 X M16	8.8	Zinc Nickel
Drive regulation plate (PRE002)	Slewing Wheel	4 X M20	8.8	Zinc Nickel
Torque tube (VIT001)	Slewing wheel	8 x M20	8.8	Zinc Nickel

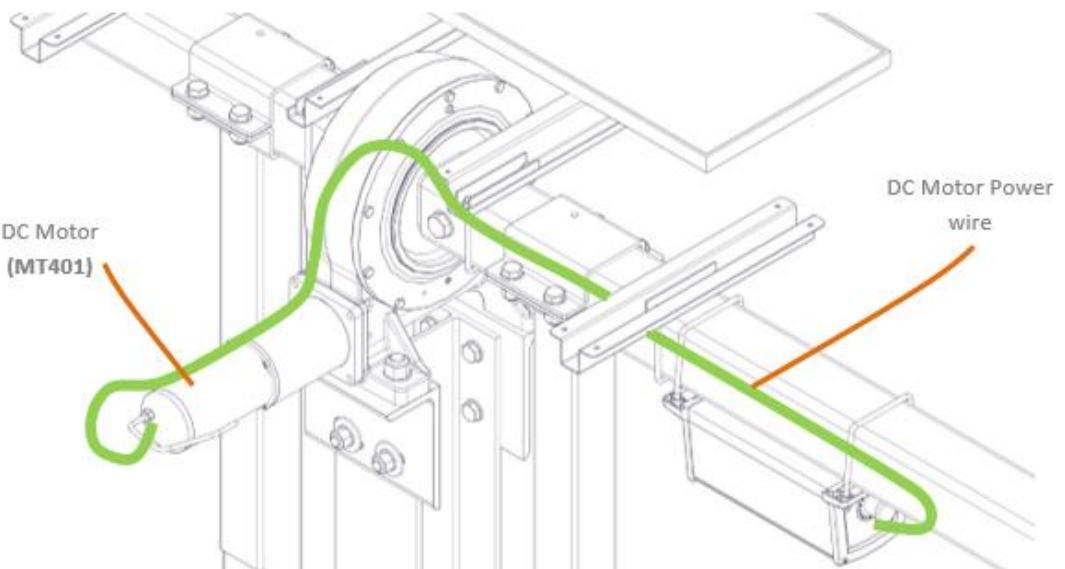


Power supply

- Self-powered from extra PV module or from the string

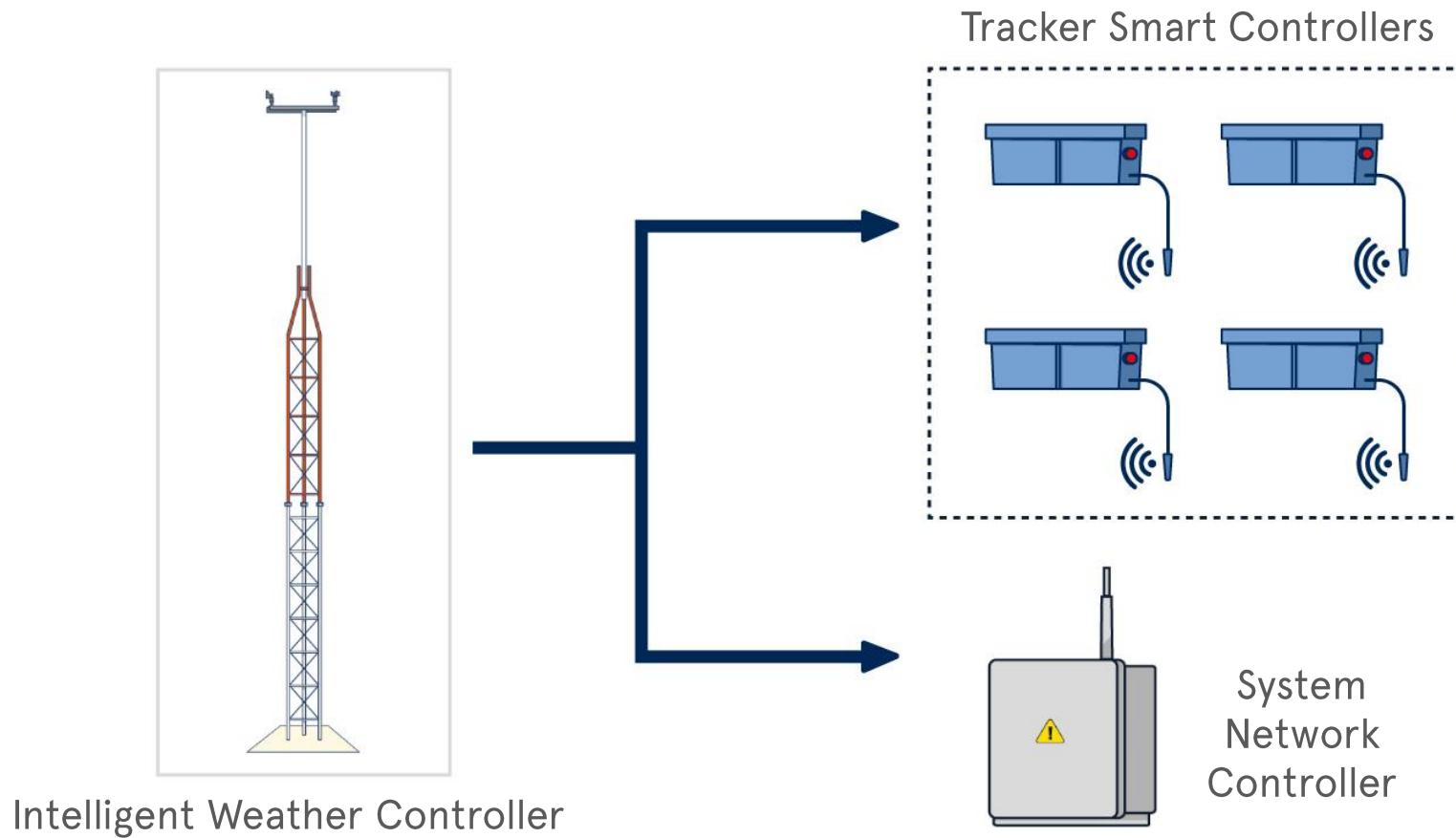


- Power supply from the grid AC



The motor is powered by the Tracking Smart Controller

Communications Diagram



Advantages

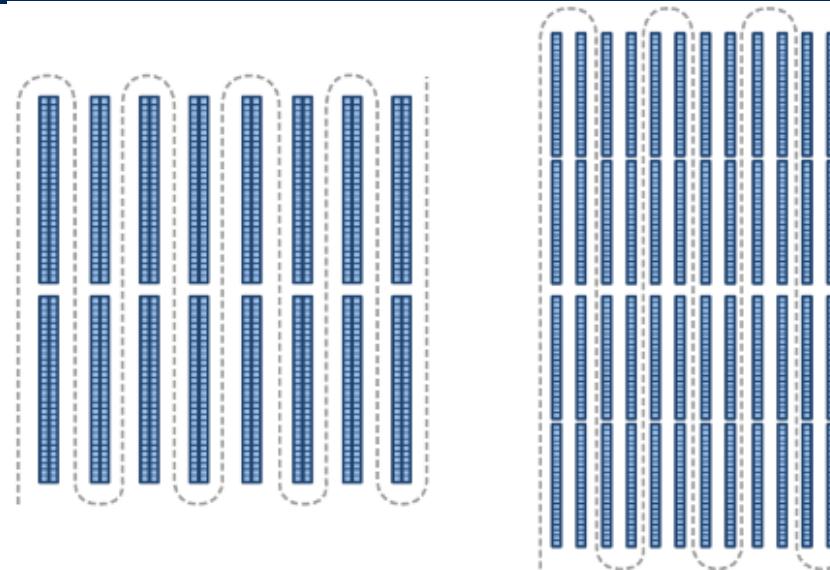
1. Adaptable to high and/or changing slopes
2. Adaptable to irregular border conditions
3. Maximizes density (installed power per unit of surface)
4. Easier cleaning and access to all the components
5. Lowest maintenance
6. Half number of key components than single row trackers (motor, actuator, control system)
7. Highest reliability: minimized torsional forces and the associated risks



Advantages

Corridor for O&M works every two rows

2Px45
independent row



**1Px60x2 dual-row
(STI-H250™)**



A wide-angle photograph of a solar farm in a rural, mountainous area. Numerous blue solar panels are mounted on metal frames in a grassy field. In the background, there are green hills, a small village with houses and barns, and snow-capped mountains under a clear sky.

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SAVED INVESTMENT

- Up to 3.5 MW block design
- Easy transportation and installation due to standard container design

EASY O&M

- Online analysis for fast trouble shooting
- Modular design, main devices easy replacement
- All pre-assembled for easy set-up and commissioning

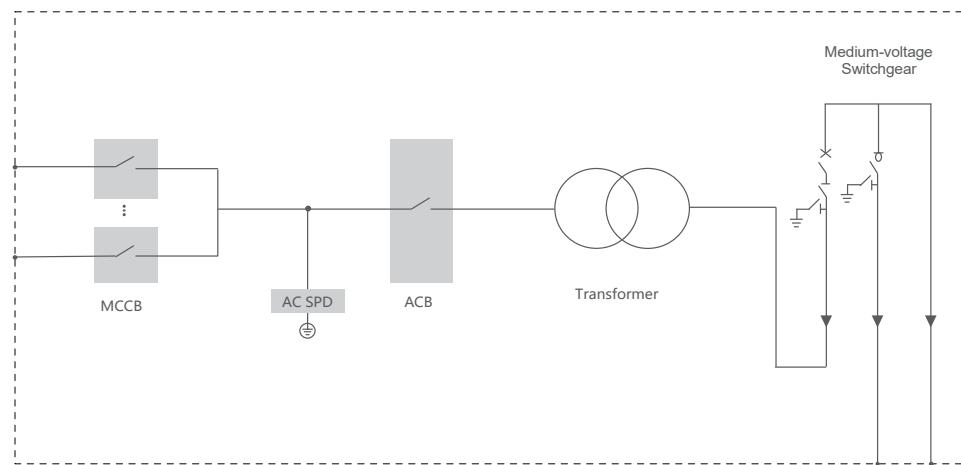
SAFETY

- MV and LV isolated, with independent control room
- All key components front accessible

RELIABLE

- All components type-tested
- Compliance with standards: IEC 60076, IEC 62271, IEC 61439

CIRCUIT DIAGRAM



Type designation	MVS3150-LV
Transformer	
Transformer type	Oil immersed
Rated power	3150 kVA @ 40 °C
Max. power	3500 kVA @ 30 °C
Vector group	Dy11
LV / MV voltage	0.8 kV / 10 – 35 kV
Maximun input current at nominal voltage	2525 A
Frequency	50 Hz / 60 Hz
Tapping on HV	0, ±2 * 2.5 %
Peak efficiency index	≥ 99.445 %
Cooling type	ONAN (Oil Natural Air Natural)
Impedance	7 % (±10 %)
Oil type	Mineral oil (PCB free)
Winding material	Al / Al
Insulation class	A
MV Switchgear	
Insulation type	SF6
Rate voltage	24 – 36 kV
Rate current	630 A
Internal arcing fault	IAC AFL 20kA / 1s
Qty.of feeder	3 feeders
LV Panel	
ACB specification	3200 A / 800 Vac / 3P, 1 pcs
MCCB specification	250 A / 800 Vac / 3P, 14 pcs
Protection	
AC input protection	Circuit breaker
Transformer protection	Oil-temperature, oil-level, oil-Pressure
Relay protection	50 / 51, 50N / 51N
LV overvoltage protection	AC Type II (optional: AC Type I+II)
General Data	
Dimensions (W*H*D)	6058 *2896 * 2438 mm
Approximate weight	15 T
Operating ambient temperature range	-20 to 60 °C (optional: -30 to 60 °C)
Auxiliary power supply	5 kVA / 400 V (optional: max. 40 kVA)
Degree of protection	IP54
Allowable relative humidity range (non-condensing)	0 – 95 %
Operating altitude	1000 m (standard) / > 1000 m (optional)
Communication	Standard: RS485, Ethernet, Optical fiber
Compliance	IEC 60076, IEC 62271-200, IEC 62271-202, IEC 61439-1, EN50588-1

