

Appendix 2-1

**Solar Array and Racking
System Spec Sheets**

Tiger Pro 72HC-TV

525-545 Watt

BIFACIAL MODULE WITH
TRANSPARENT BACKSHEET

P-Type

Positive power tolerance of 0~+3%

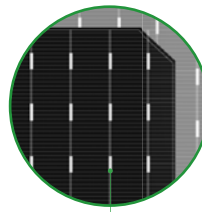
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

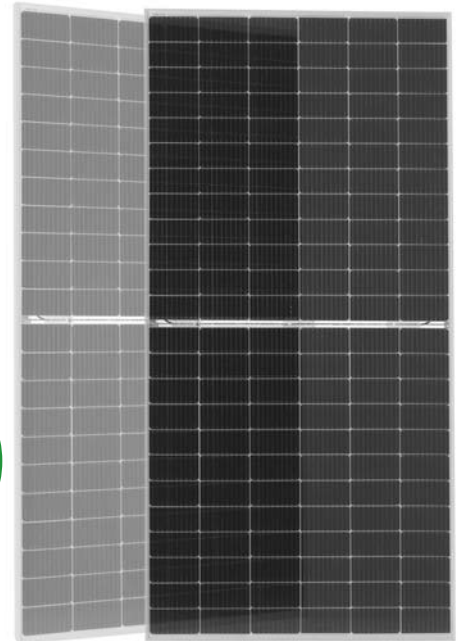
ISO14001:2015: Environment Management System

ISO45001:2018

Occupational health and safety management systems



Bifacial Technology



Key Features



Multi Busbar Technology

Better light trapping and current collection to improve module power output and reliability.



Light-weight design

Light-weight design using transparent backsheet for easy installation and low BOS cost.



Higher Power Output

Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR.



Longer Life-time Power Yield

0.45% annual power degradation and 30 year linear power warranty.



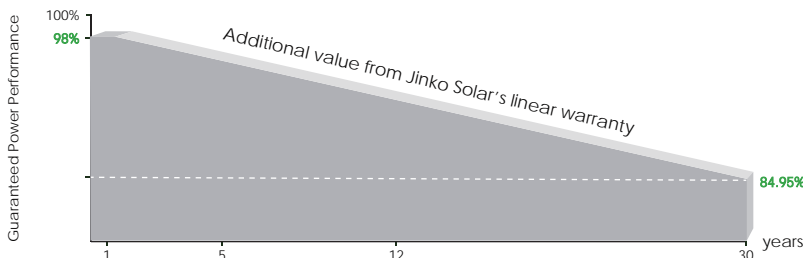
Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



POSITIVE QUALITY™
Continuous Quality Assurance

LINEAR PERFORMANCE WARRANTY

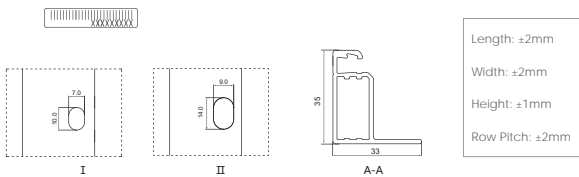
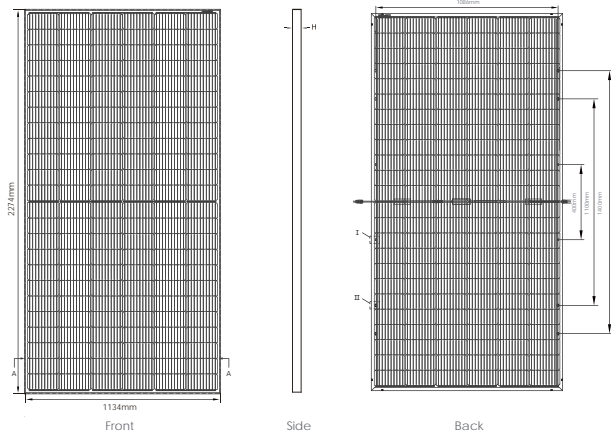


12 Year Product Warranty

30 Year Linear Power Warranty

0.45% Annual Degradation Over 30 years

Engineering Drawings



Length: ±2mm
Width: ±2mm
Height: ±1mm
Row Pitch: ±2mm

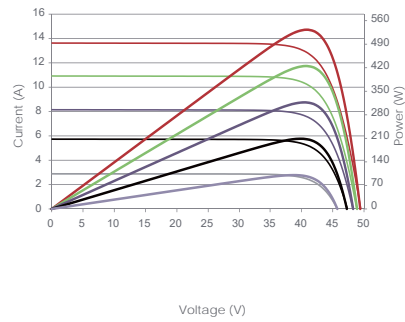
Packaging Configuration

(Two pallets = One stack)

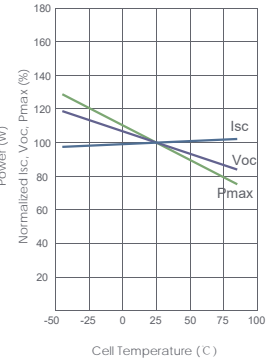
31pcs/pallets, 62pcs/stack, 620pcs/ 40'HQ Container

Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (535W)



Temperature Dependence of Isc, Voc, Pmax



Mechanical Characteristics

Cell Type	P type Mono-crystalline
No. of cells	144 (6×24)
Dimensions	2274×1134×35mm (89.53×44.65×1.38 inch)
Weight	28.9 kg (63.7 lbs)
Front Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm ² (+): 400mm, (-): 200mm or Customized Length

SPECIFICATIONS

Module Type	JKM525M-72HL4-TV		JKM530M-72HL4-TV		JKM535M-72HL4-TV		JKM540M-72HL4-TV		JKM545M-72HL4-TV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	525Wp	391Wp	530Wp	394Wp	535Wp	398Wp	540Wp	402Wp	545Wp	405Wp
Maximum Power Voltage (Vmp)	40.61V	37.74V	40.71V	37.88V	40.81V	37.98V	40.91V	38.08V	41.07V	38.18V
Maximum Power Current (Imp)	12.93A	10.35A	13.02A	10.41A	13.11A	10.48A	13.20A	10.55A	13.27A	10.62A
Open-circuit Voltage (Voc)	49.27V	46.50V	49.35V	46.58V	49.42V	46.65V	49.49V	46.71V	49.65V	46.86V
Short-circuit Current (Isc)	13.64A	11.02A	13.71A	11.07A	13.79A	11.14A	13.87A	11.20A	13.94A	11.26A
Module Efficiency STC (%)	20.36%		20.55%		20.75%		20.94%		21.13%	
Operating Temperature(°C)	-40°C~+85°C									
Maximum system voltage	1500VDC (IEC)									
Maximum series fuse rating	30A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.35%/°C									
Temperature coefficients of Voc	-0.28%/°C									
Temperature coefficients of Isc	0.048%/°C									
Nominal operating cell temperature (NOCT)	45±2°C									
Refer. Bifacial Factor	70±5%									

BIFACIAL OUTPUT-REAR SIDE POWER GAIN

		551Wp	557Wp	562Wp	567Wp	572Wp
5%	Maximum Power (Pmax)	551Wp	557Wp	562Wp	567Wp	572Wp
	Module Efficiency STC (%)	21.38%	21.58%	21.78%	21.99%	22.19%
15%	Maximum Power (Pmax)	604Wp	610Wp	615Wp	621Wp	623Wp
	Module Efficiency STC (%)	23.41%	23.64%	23.86%	24.08%	24.30%
25%	Maximum Power (Pmax)	656Wp	663Wp	669Wp	675Wp	681Wp
	Module Efficiency STC (%)	25.45%	25.69%	25.93%	26.18%	26.42%

*STC: Irradiance 1000W/m²

Cell Temperature 25°C

AM=1.5

NOCT: Irradiance 800W/m²

Ambient Temperature 20°C

AM=1.5

Wind Speed 1m/s

**99.996%
UPTIME.
ENGINEERED
SIMPLICITY.**

**7%
LOWER
LCOE**

**31%
LOWER
LIFETIME
O&M**

DuraTrack® HZ v3

Three decades of field-tested design improvements have resulted in the DuraTrack® HZ v3 — the most durable, reliable tracking system under the sun. While our single-bolt module clamp and forgiving tolerances streamline installation, and our flexibly linked architecture maximizes power density, it's our innovative use of fewer components and a failure-free wind management system that makes Array Technologies the best choice for solar trackers. **Better. Stronger. Smarter.**



HIGH POWER DENSITY.

Higher density means more power and more profit. DuraTrack HZ v3 offers the unique ability to maximize the power density of each site, boasting 100 modules per row and higher density than our closest competition.



LEADING TERRAIN ADAPTABILITY.

Our flexibly linked architecture, with articulating driveline joints and forgiving tolerances, creates the most adaptable system on the market for following natural land contours while creating the greatest power generation potential from every site.



FEWER COMPONENTS. GREATER RELIABILITY.

Array was founded on a philosophy of engineered simplicity. Minimizing potential failure points (167 times fewer components than competitors), DuraTrack HZ v3 consistently delivers higher reliability and superior uptime.



FAILURE-FREE WIND DESIGN.

DuraTrack HZ v3 was designed and field tested to withstand some of the harshest conditions on the planet. It is the only tracker on the market that reliably handles wind events with a fully integrated, fully mechanical, passive wind-load mitigation system without the need for complex communication systems, batteries, or power.



ZERO SCHEDULED MAINTENANCE.

Maintenance-free motors and gears, fewer moving parts, and industrial-grade components—what does this mean for our customers? No scheduled maintenance required. While our competitors average two unscheduled maintenance events per day, we average only one per year.

COST VERSUS VALUE

We believe value is more than the cost of a tracking system. It's about building with forgiving tolerances and fewer parts so construction crews can work efficiently. It means protecting your investment with a failure-free wind management system. It also includes increasing power density. But most of all, value is measured in operational uptime, or reliability.

THE GLOBAL LEADER IN RELIABILITY

Array has spent decades designing and perfecting the most reliable tracker on the planet. Fewer moving parts, stronger components and intelligent design that protects your investment in the harshest weather are but a few of the innovative differences that keep your system running flawlessly all day and you resting easy at night.

ARRAY TECHNOLOGIES, INC.

3901 Midway Place NE
Albuquerque, NM 87109 USA

+1 505.881.7567
+1 855.TRACKPV (872.2578)
+1.505.881.7572

sales@arraytechinc.com

arraytechinc.com

30 GW YEARS OF OPERATION

167x FEWER COMPONENTS THAN COMPETITIVE TRACKERS

STRUCTURAL & MECHANICAL FEATURES/SPECIFICATIONS

Tracking Type	Horizontal single axis
Less than 1 drive motor /MW	Up to 1.559 MW DC
String Voltage	Up to 1,500V DC
Maximum Linked Rows	32
Maximum Row Size	116 modules crystalline, and bifacial: 240 modules First Solar 4; 90 modules First Solar 6 and 6 Plus
Drive Type	Rotating gear drive
Motor Type	2 HP, 3 PH, 480V AC
East-West/North-South Dimensions	Site / module specific
Array Height	54" standard, adjustable (48" min height above grade)
Ground Coverage Ratio (GCR)	Flexible, 28-45% typical, others supported on request
Terrain Flexibility	N-S tolerance: 0-15% standard, 26% optional; Driveline: 40° in all directions
Modules Supported	Most commercially available, including framed and frameless thin film, crystalline silicon, hetero junction and bifacial.
Tracking Range of Motion	± 52° standard, ± 62° optional
Operating Temperature Range	-30°F to 140°F (-34°C to 60°C)
Module Configuration available.	Single-in-portrait standard, including bifacial. Four-in-landscape (thin film)
Module Attachment	Single fastener, high-speed mounting clamps with integrated grounding. Traditional rails for crystalline in landscape, custom racking for thin film and frameless crystalline and bifacial per manufacturer specs.
Materials	Pre-galv steel, HDG steel and aluminum structural members, as required
Allowable Wind Load (ASCE 7-10)	140 mph, 3-second gust exposure C
Wind Protection	Failure free passive mechanical system protects against wind damage without the use of complex communications systems, batteries — no power required

ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS

Solar Tracking Method	Algorithm with GPS input
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet to SCADA system
Night-time Stow	Yes
Tracking Accuracy	± 2° standard, field adjustable
Backtracking	Yes

INSTALLATION, OPERATION & MAINTENANCE

Software	SmarTrack optimization available
PE Stamped Structural Calculations & Drawings	Yes
On-site Training and System Commissioning	Yes
Connection Type	Fully bolted connections, no welding
In-field Fabrication Required	No
Dry Slide Bearings and Articulating Driveline Connections	No lubrication required
Scheduled Maintenance	None required
Module Cleaning Compatibility	Robotic, Tractor, Manual

GENERAL

Annual Power Consumption (kWh per 1 MW)	400 kWh per MW per year, estimate
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