

南京曼卡特光伏支架画册

Nanjing Mankate Photovoltaic(PV) Bracket Catalogue

服务热线 Service Hotline : 400-894-5118

南京曼卡特科技有限公司
NANJING MANKATE SCIENCE & TECHNOLOGY CO.,LTD

COMPANY PROFILE

公司介绍



2004

2004年成立
set up in 2005

50000+

超5万个工程项目案例
50,000+ project cases achieved

南京曼卡特科技有限公司成立于2004年，是一家专业从事加固、锚固材料研发、生产、销售为一体的生产型企业。Founded in 2004, Nanjing Mankate is specialized in R&D, production, and sales of reinforcement and anchoring materials.

服务领域：核电、高铁、地铁、路桥、管廊、市政、钢结构、建筑外墙、建筑加固等。Service areas: nuclear power, high rail, metro, road&bridge, utility tunnel, municipal engineering, steel structure, exterior wall, building reinforcement&repaire, etc.

主要产品有：光伏支架、抗震支架、预埋槽道、耐火包裹、后扩底机械锚栓、自扩底机械锚栓、特殊倒锥形化学锚栓、通丝化学锚栓、胶粘模扩底锚栓、背栓等、碳纤维布、植筋胶、粘钢胶、灌缝胶、碳纤维板、碳纤维预应力全套系统及各种水下用建筑特种结构胶。

PV brackets, seismic brackets, embedded channels, fire-resistant wraps, undercut anchors, self-undercut anchors, conicle chemical anchors, threaded rod, adhesive-bonded undercut anchors, Panel undercut anchors, etc., carbon fiber wraps, steel-anchoring adhesives, steel - bonding adhesives, crack - filling adhesives, carbon fiber plates, carbon fiber prestress complete systems, and various special structural adhesives for underwater/high/low temperature construction



CCTV央视展播品牌

平安保险承保

ISO质量体系认证

COOPERATIVE PARTNER

合作伙伴



公司80%的项目业绩都来自于合作10年以上的客户及客户转介绍
80% of the company's business comes from old customers and their referrals



BRAND QUALIFICATION

品牌资质



- ◆ 环境管理体系认证证书
Certificate by Environmental Management System
- ◆ 质量管理体系认证证书
Certificate by Quality Management System
- ◆ 职业健康安全管理体系认证
Certificate by Occupational Health and Safety Management System
- ◆ 若干实用新型专利证书、发明专利证书
Invention Patent & Utility Model Patent Certificate
- ◆ CE认证
CE Certification
- ◆ 欧洲ETA认证
ETA Certification



BRAND HONORS

品牌荣誉



20年磨砺，曼卡特载誉而归：被政府授予高新技术企业、瞪羚企业、规上工业、创新型中小企业、科技型中小企业、江苏省民营科技企业证书荣誉；产品荣获中国名优产品、中国知名品牌称号，江苏省产品质量信得过企业，江苏省质量诚信AAAAA级品牌企业，江苏省产品抽查合格企业.....

Through 20 years of honing, Mankate has earned certificates of honors and titles of "High-Tech Enterprise", "Gazelle Enterprise", "Scale Enterprise", "Innovation-type small- medium Enterprise", "Technology-type small- medium Enterprise" and " Jiangsu Province private TechEnterprise". The products have been titled as "China's Famous and Excellent Products" and "China's Well-Known Brand", the enterprise listed in "Jiangsu Province Trustworthy-Product-Quality Enterprise", "Jiangsu Province Good-Faith-Quality AAAAA-Brand Enterprise", and "Jiangsu Province Product-Spot-Check-Good Enterprise".



产品一.碳钢支架

Product I -Carbon Steel Bracket

防腐工艺：热镀锌 锌铝镁

Anticorrosion: HDG, ZAM

应用场景：集中式光伏电站 分布式光伏电站

Application Occasions: Centralized/Distributed PV power plants

- 1.1 组件单排竖放跟踪支架Single - row vertical tracking bracket
- 1.2 跟踪支架 Tracking bracket
- 1.3 跟踪系统智能跟踪算法 Intelligent tracking algorithm for tracking system
- 1.4 可调支架 Adjustabele bracket
- 1.5 单层索标准方案Standard solution for single - layer cable
- 1.6 双层索标准方案 Standard solution for double - layer cable



组件单排竖放跟踪支架Module in vertical single-row tracking brackets

产品参数 Parameters

跟踪形式：1P单排独立跟踪系统

tracking model: 1P 1-row independent tracking

跟踪器容量：90片组件

tracker capacity: 90-piece module

控制系统：单片机

control system: 1chip computer

自适应坡度：自适应15%

self-adaptable slope: 15%

跟踪精度： $< 1^{\circ}$

tracking accuracy: $< 1^{\circ}$

跟踪范围： $\pm 60^{\circ}$

tracking range: $\pm 60^{\circ}$

传动方式：回转

transmission mannner : slewing

设计风速：52m/s，根据项目地调整

designed wind speed: 52m/s,
adjustable with project site

控制算法：SPA天文算法+倾角传感器闭环+地形/阴雨天AI智能算法

control algorithm: SPA astronomical algorithm + Closed - loop of tilt
angle sensor + AI intelligent algorithm for terrain/rainy cloudy days

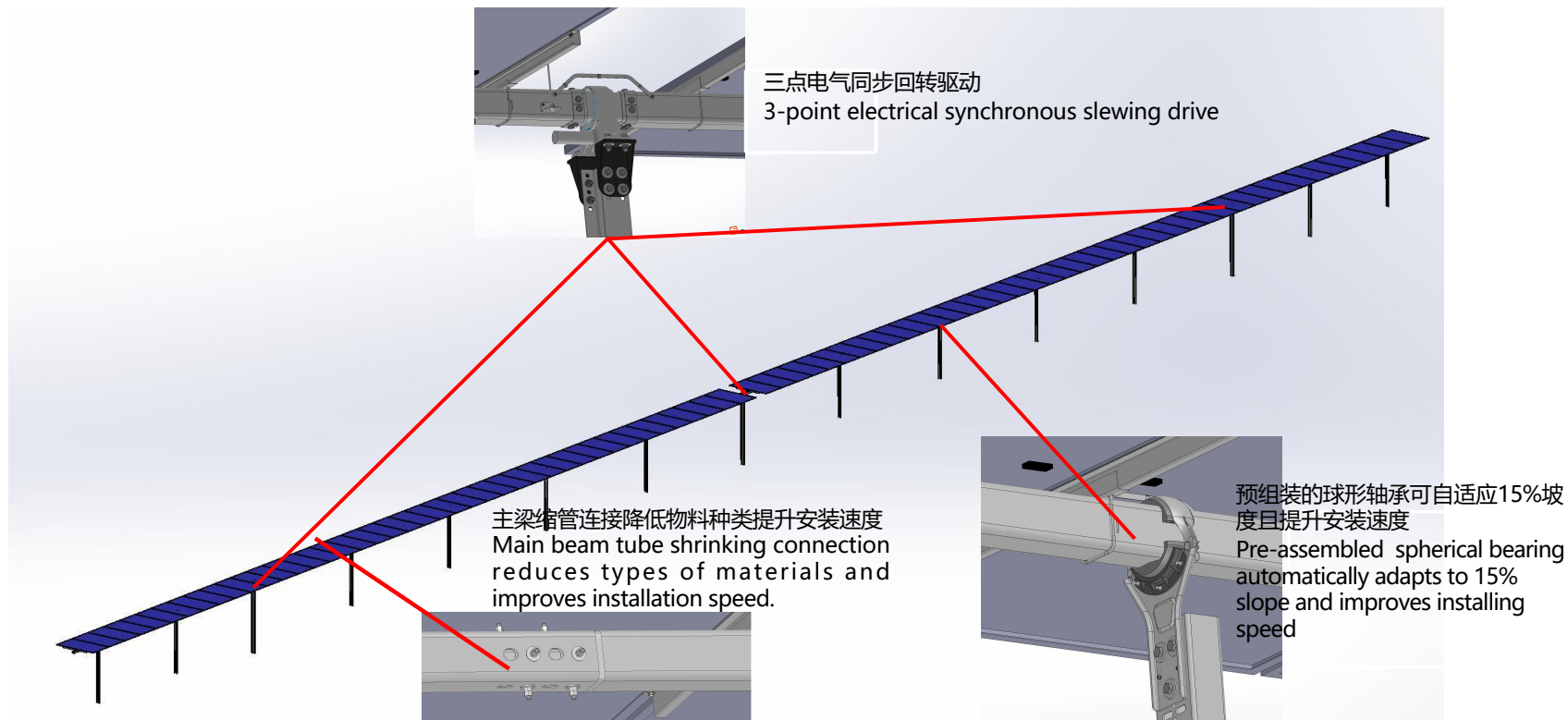


组件单排竖放跟踪支架Module in vertical single-row tracking brackets

产品优点 Product advantages

- 单列多点驱动，提升支架刚度；更大抗风能力
1-row multi-point drive, enhanced bracket stiffness, greater wind resistance
- AI算法，主动规避阴雨天不利角度和坡地阴影遮挡；更智能
AI algorithm, actively avoid unfavorable angles and slope shading; more intelligent.
- 电气联动多点支撑，多点互锁；更安全
Electrical linkage multi-point bracket, multi-point interlock; safer.
- 轴承座球面设计，可自适应15%的坡地；施工更便利
Spherical bearing seat automatically adaptable to 15% slopes, construction more convenient.
- 多点驱动独立控制，闭环反馈，主动调节倾角；表现更佳
Multi-point drive independent control, closed-loop feedback, tilt-angle actively adjustable, better performance
- 非焊件设计，预组装，主材构件种类不超过10件；更省人工；
Non-weld design, Pre-assembly, main modules no more than 10, less labor needed.

组件单排竖放跟踪支架 single-row vertical tracking bracket for components



组件单排竖放跟踪支架

single-row vertical tracking bracket for components

跟踪支架形式tracking bracket mode	组件单排竖放跟踪支架single-row vertical tracking bracket for components
跟踪范围 tracking range	±60°
容量/排 capacity/row	标准90块组件 standard 90 pieces/ module
单排立柱数量 column No./row	标准15立柱每排 standard15 columns/row
南北向地形适应性 north-south terrain adabtability	标准15% standard 15 %
控制系统 control system	单片机，天文学算法+阴雨天/地形智能算法 1-chip microcomputer, astronomical algorithm+ algorithm for terrain/rainy cloudy days
驱动系统 drive system	3独立回转电气联动3-point independent slewing electrical linkage
供电方式 power supply	组串自供电+锂电池备份 String self-power supply + Lithium-battery backup
通讯方式 communication manner	Lora/Zigbee无线通讯 /RS485有线Lora/Zigbee wireless / RS485 wired communication
大风保护策略high - wind protection	5°(依据CPP风洞测试)5° (Based on CPP wind tunnel test)

跟踪支架 Tracking bracket

产品参数 Parameters



跟踪形式：2P单排独立跟踪系统
tracking model: 2P 1-row
independent tracking

自适应坡度：自适应15%
self-adaptable slope: 15%

跟踪范围： $\pm 60^\circ$
tracking range: $\pm 60^\circ$

传动方式：回转
transmission mannner : slewing

控制算法：SPA天文算法+倾角传感器闭环+AI智能算法
control algorithm: SPA astronomical algorithm + closed - loop tilt angle sensor
+ AI intelligent algorithm for terrain/rainy cloudy days

设计风速：47m/s，根据项目地调整
designed wind speed: 47m/s, adjustable
with project site

跟踪器容量：120片组件
tracker capacity: 120-piece module

跟踪精度： $< 1^\circ$
tracking accuracy: $< 1^\circ$

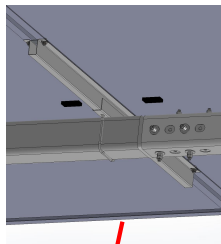
控制系统：单片机
control system: 1-chip microcomputer

跟踪支架 Tracking bracket

产品优点 Product advantages

- 电气/机械联动多点支撑，提高主轴刚度 提升抗风能力
Electrical/mechanical linkage multi- point bracket, improved stiffness of main shaft, bigger wind resistance.
- 远端故障保护，保证设备稳定运行
Remote fault protection ensures stable operation of the equipment
- 减少桩基数量，每MW节省约160根桩基
fewer pile foundations, 160 fewer/ MW
- 异型管主轴，能节省13%以上主轴材料
special tube main shaft can save more than 13% main shaft materials.
- 可适应15%的坡地安装
adaptable to 15% slope mounting
- 可应用于渔光、农光场景
applicable to fishery - photovoltaics and agriculture - photovoltaics scenarios.

跟踪支架 tracking bracket



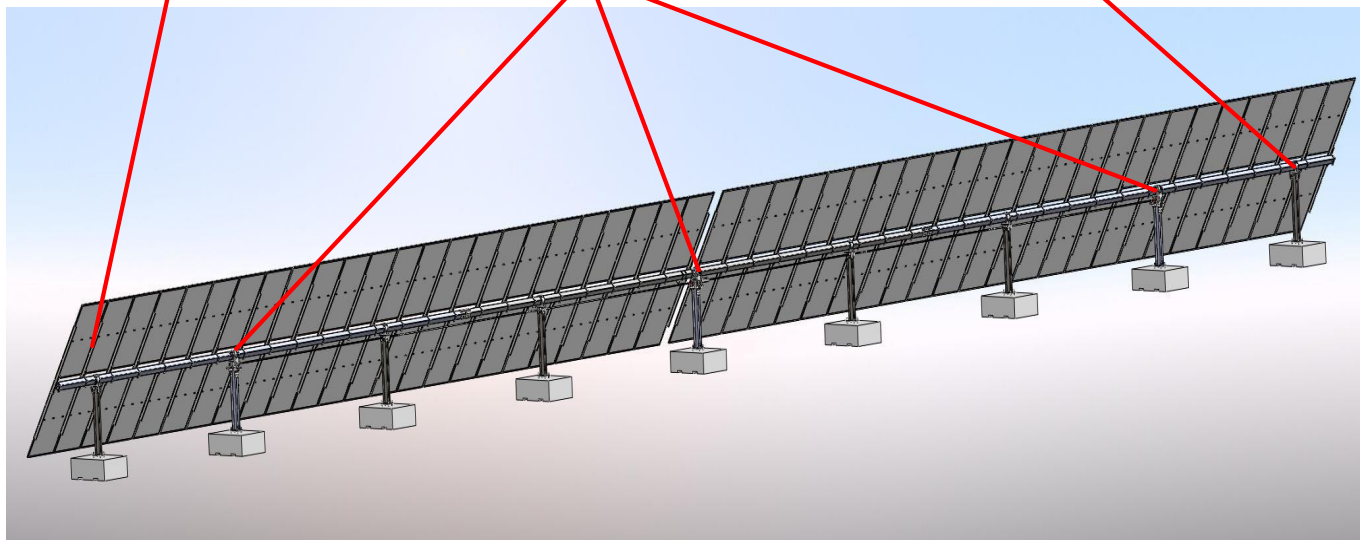
预安装檩条
pre-assembled
purlin



3回转，电气同步驱动
3-point electrical
synchronous slewing drive



球形轴承设计
spherical bearing
design



跟踪支架 tracking bracket



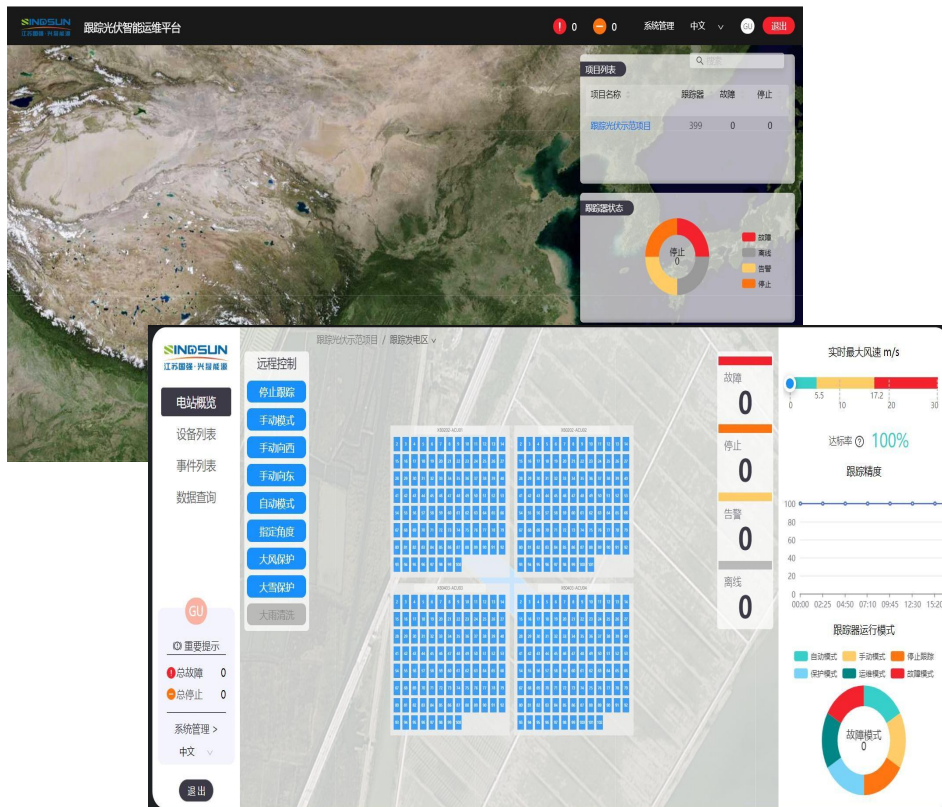
跟踪支架形式tracking bracket mode	组件单排竖放跟踪支架single-row vertical tracking bracket for components
跟踪范围 tracking range	±60°
容量/排 capacity/row	标准120块组件 standard 120 piece/ module
单排立柱数量 column No./row	标准9立柱每排 standard 9 columns/row
南北向地形适应性 north-south terrain adabtability	标准15% standard 15 %
控制系统 control system	单片机，天文学算法+阴雨天/地形智能算法 1-chip microcomputer, astronomical algorithm+ algorithm for terrain/rainy cloudy days
驱动系统 drive system	3独立回转电气联动3-point independent slewing electrical linkage
供电方式 power supply	组串自供电+锂电池备份 String self-power supply + Lithium-battery backup
通讯方式 communication manner	Lora/Zigbee无线通讯 /RS485有线Lora/Zigbee wireless / RS485 wired communication
大风保护策略High - wind protection	5°(依据CPP风洞测试)5° (Based on CPP/RWDI wind tunnel test)

跟踪系统智能跟踪算法Intelligent tracking algorithm for tracking system

光伏跟踪控制系统与AI算法系统 PV track control system and AI algorithm system

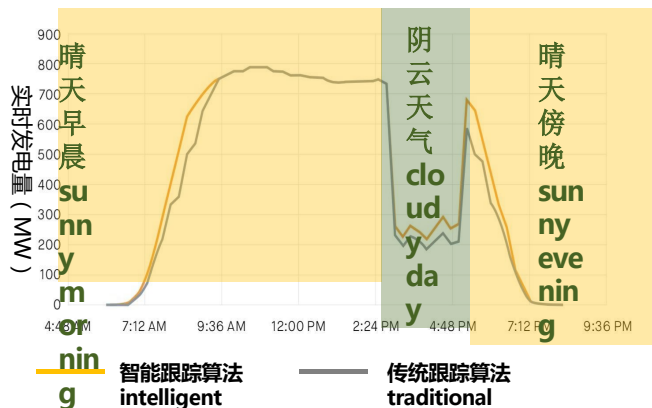
这是个典型的嵌入式机电一体化控制系统，包括机械、电子、软件三大部分，主要涉及七个关键技术：直流电机驱动技术、倾角传感器位置检测技术、天文算法技术、嵌入式操作系统应用技术、BMS物联网远程监控技术，物联网数据为基础的AI算法、BMS管理系统。

It is a typical embedded mechatronic control system consisting of 3 major parts(machinery, electronics, and software) and involving 7 key technologies: DC motor drive, tilt angle position-sensor detection, astronomical algorithm, embedded operating system application, BMS Internet of Things (IoT) remote monitoring, AI algorithms based on IoT data, and BMS management system.



跟踪系统智能跟踪算法 Intelligent tracking algorithm for tracking system

1MW光伏电站发电量对比
1MW PV power generation



传统跟踪算法vs 兴晟智能跟踪算法实现1.2%电量增加
Traditional tracking algorithm vs. Xingsheng intelligent tracking algorithm: a 1.2% increase in power generation achieved.

光伏 AI 算法系统的价值

Advantage of AI algorithm of PV

品牌价值 brand value

数据化和智能化驱动的独特跟踪形态，塑造了差异化的品牌形象，增加了跟踪器的品牌价值，有助于品牌国际竞争力的提升。
Unique tracking mode driven by digitalization and intelligence shapes a differentiated brand image, enhances brand value of the tracker, and improves the brand's international competitiveness.

行业突破 breakthrough of this industry

通过跟踪效率的最大化优化，融合其它各项最先进的提升发电效率的技术，率先实现平价上网的突破。Through the maximization and optimization of tracking efficiency and the integration of other best power-generation technologies, it takes the lead in achieving a breakthrough in grid-parity electricity.

经济效益 economic value

智能跟踪器效率的提升直接给发电站投资人提升了内部收益率，增加了跟踪器的经济价值和议价能力。
Efficiency improvement of intelligent trackers directly boosts the internal earning rate for power station investors, enhancing the economic value and bargaining power of the trackers.

可调支架 Adjustable bracket

产品参数 Parameters

设计风速：33m/s (10min) , 根据项目地调整
designed wind speed: 33m/s(10min.), adjustable with project site

防腐：热镀锌、锌铝镁；
anti-corrosion: HDG,ZAM

结构形式：“1+1” 可调支架
structure: “1+1” adjustable bracket

承载组件数量：18片~56片组件
loaded pieces of module: 18-56 pieces

调节方式：电动无极调节
adjustment method: Electric stepless

系统使用寿命：> 25年
system service life: > 25 years

产品认证：TUV认证
product certificate: TUV certificate

角度调节范围：≤60°
angle adjustable range: ≤60°



可调支架 Adjustable bracket

产品优点 Product advantages

- 每个立柱一个推杆，保证结构强度，提高结构稳定性
one push-rod for each column, structure rigidity assured, improved structure stability
- 可调支架可根据季节调节角度，增加5%的有效发电量
adjust the angle with changing seasons, increasing effective power generation by 5%.
- 可实现智能调节，实现无人运维
intelligent adjustment realizable, unmanned operation&maintenance enabled.
- 调节轻松，可实现5MW/人/天
effortless adjustment, 5MW/person/day possible
- 可实现5-60度无极调节
5-60 continuous adjustment realizable
- 可适应山地、农光、渔光等各种复杂应用场景
applicable to various complex application such as mountainous areas, agriculture PV, and fishery PV

单层索标准方案 Standard solution for single-layer cable

产品参数 Product parameters

设计风速：33m/s，根据项目地调整

designed wind speed: 33m/s(10min.), adjustable with project site

跨度范围：15m~20m

span range: 15m~20m

单列经济长度：300m~600m

economical length/Line:300m~600m

组件倾角： $\leq 35^\circ$

module tilt angle: $\leq 35^\circ$

兆瓦用桩量：85支/MW

pile number/MW: 85 piles/MW

组件安装：背锁、专用夹具

assembly tool: back lock, special clamp

防腐：热镀锌、锌铝镁；

anti-corrosion: HDG,ZAM

产品认证：TUV认证，组件隐裂认证

product certifications: TUV, module micro-crack certification



单层索标准方案 Standard solution for single-layer cable

1 可靠性 reliability

单层索结构，施工简单但整体结构稳定 single-layer cable structure, easy construction but with stable integral structure
夹片锚安装+挤压锚保护，保证钢绞线端部节点可靠性 Installation of clamp anchors and protection from extruded anchors ensure the reliability of the end nodes of the steel strands.

2 经济型 economy

支架离桩顶1.5m、单列10跨；支架耗材15~18吨/MW，钢绞线5~6吨/MW；其他锚具，铝合金若干；销售价格范围在 0.22~0.28元/W；（具体的地形排布具体分析）
bracket 1.5m away from pile top, 10 spans/line. bracket material consumes 15-18 tons per MW, 5 -6 tons of steel strands per MW, some other anchors and aluminum alloy with selling price 0.22 to 0.28 yuan per watt. (changable with specific topographical arrangements)

3 适用性 adaptability

可适应45°以下坡度、组件离地高度1.5~8m.
Adaptable to slopes below 45°, modules height from ground 1.5m to 8m.
可应用于山地、农光场景
applicable to mountain areas, agriculture PV

双层索标准方案 Standard solution for double-layer cable

产品参数 Product parameters

设计风速：33m/s，根据项目地调整
designed wind speed: 33m/s(10min.), adjustable with project site

跨度范围：20m~40m
span range: 20m~40m

单列经济长度：400m~1000m
economical length/Line: 400m~1000m

组件倾角： $\leq 35^\circ$
module tile angle: $\leq 35^\circ$

兆瓦用桩量：60支/MW
pile number/MW: 60 piles/MW

防腐：热镀锌、锌铝镁；
anti-corrosion: HDG, ZAM

组件安装：背锁、专用夹具
assembly tool: back lock, special clamp

产品认证：TUV认证，组件隐裂认证
certifications: TUV, module micro-crack certification



双层索标准方案 Standard solution for double-layer cable

1 可靠性 reliability

双层索结构，抗风桁架三角形与十字交叉组成，增大抵抗水平力double-layer cable structure, wind-resistant truss composed of triangular and cross - shaped structures, greater resistance to horizontal forces.
夹片锚安装+挤压锚保护，保证钢绞线端部节点可靠性Installation of clamp anchors and protection from extruded anchors ensure reliability of the end nodes of the steel strands.

2 经济型 economy

支架离桩顶1.5m、单列10跨；支架耗材20~25吨/MW，钢绞线7~9吨/MW；其他锚具，铝合金若干；销售价格范围在 0.32~0.36元/W；（具体的地形排布具体分析）bracket 1.5m away from pile top, 10 spans/line. bracket material consumes 20~25 tons/ MW, 7~9 tons of steel strands/MW, some amount of other anchors and aluminum alloy with selling price 0.22 to 0.28 yuan/ watt. (changable with specific topographical arrangements)

3 适用性 adaptability

可适应45°以下坡度、组件离地高度2.5~8m.
adaptable to slopes below 45°, modules height from ground 2.5m to 8m.
可应用于渔光、大棚场景
applicable to fishery PV, greenhouse occasions

双层索—列长南北向柔性支架

Double-layer cable - longitudinal north-south flexible bracket

产品参数 Product parameters

设计风速：33m/s，根据项目地调整

designed wind speed: 33m/s(10min.), adjustable with project site

单列经济长度：400m~1000m

economical length/Line: 400m~1000m

组件倾角： $\leq 20^\circ$

module tile angle: $\leq 20^\circ$

兆瓦用桩量：75支/MW

pile number/MW: 75 piles/MW

产品认证：TUV认证，组件隐裂

certifications: TUV, module micro-crack certification

跨度范围：20m~40m

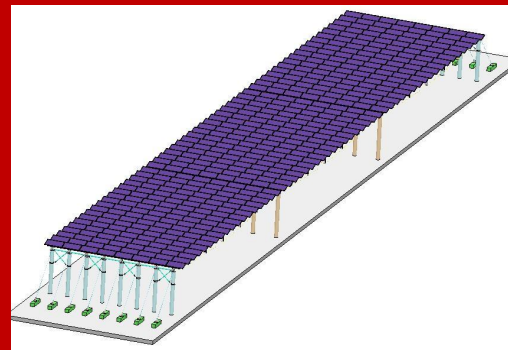
span range: 20m~40m

防腐：热镀锌、锌铝镁

anti-corrosion: HDG, ZAM

组件安装：背锁、专用夹具

assembly tool: back lock, special clamp



双层索—列长南北向柔性支架

Double-layer cable - longitudinal north-south flexible bracket

1 可靠性 reliability

双层索结构，钢支架与索结构体系组合布置，结构刚度强，抗风能力强
double-layer cable structure, steel supports arranged within cable structure, better structure stiffness, greater wind resistance to horizontal forces.
夹片锚安装+挤压锚保护，保证钢绞线端部节点可靠性 Installation of clamp anchors and protection from extruded anchors ensure reliability of end nodes of steel strands.

2 经济型 economy

一般地形、单列10跨；支架耗材35~45吨/MW，钢绞线7~9吨/MW；其他锚具，铝合金若干；销售价格范围在0.42~0.48元/W；（具体的地形排布具体分析），
common terrain, 10 spans/line, brackets material consumed 35~45 tons/ MW, 7~9 tons of steel strands/MW, some amount of other anchors and aluminum alloy with selling price 0.42~0.48yuan/ watt. (changable with specific topographical arrangements)

3 适用性 adaptability

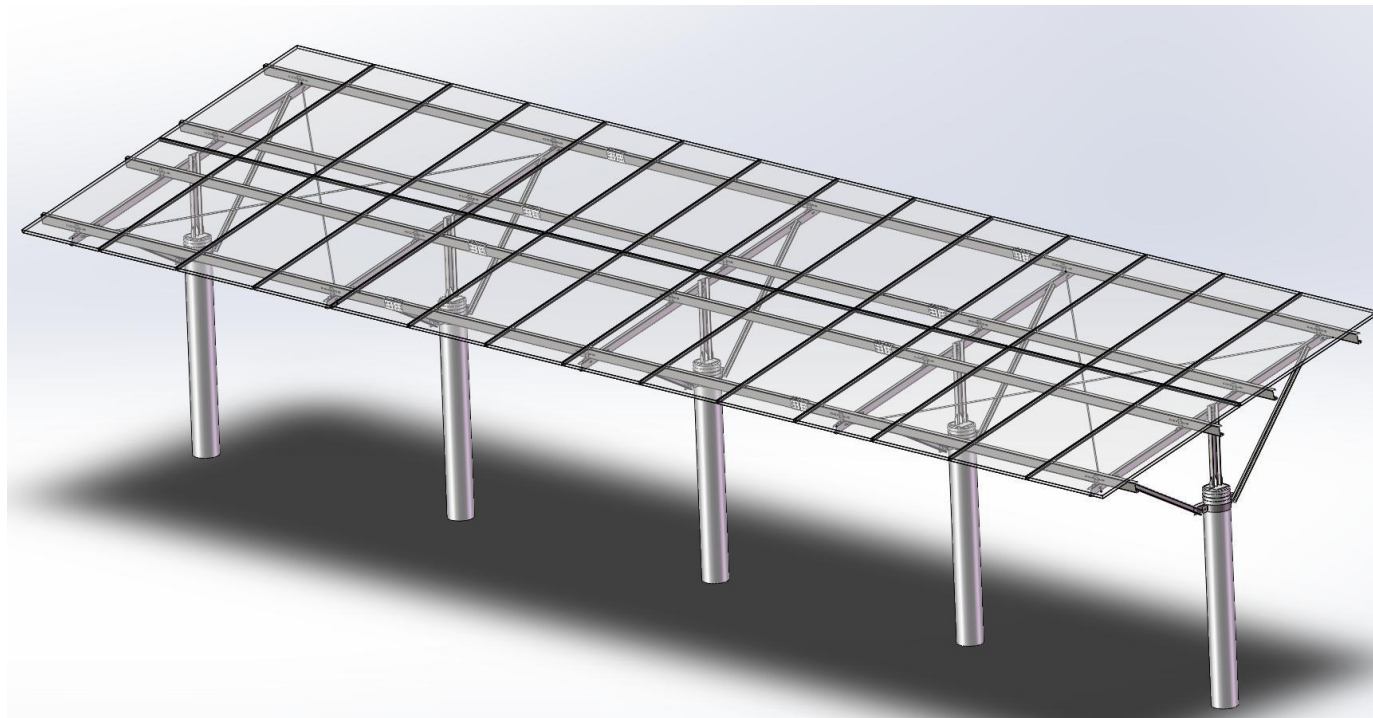
可适应组件离地高度 > 6m
adaptable to modules height from ground > 6m
可应用于沟渠、渔光、大棚场景
applicable to ditches, fishery PV, greenhouse occasions

固定支架 fixing bracket



- 1.更轻便、更美观，减少约10%的钢材重量；lighter and more aesthetically pleasing, less steel by about 10%.
- 2.更高防腐蚀能力，是常规热镀锌产品的3-5倍；higher anti-corrosion ability, 3-5 times conventional HDG products.
- 3.镀镁铝锌拥有耐盐雾能力、耐二氧化硫能力、耐氨水能力、耐酸雨能力；Magnesium - aluminum - zinc coating has resistance to salt spray, sulfur dioxide, ammonia water, and acid rain.
- 4.切口耐腐蚀性和自愈性，可以进行后续加工；cut anti-corrosive, self-healing allowing for subsequent processing.
- 5.高表面强度，加工损伤小。surface strength high, less processing damage

固定支架 Fixing Bracket



单立柱PHC管桩底板焊接立柱+抱箍 或 双抱箍+横担，材质热镀锌/镀铝镁锌

Single-column PHC pipe pile bottom plate welded with column+one hoop, or double-hoop+cross-arm, material HDG or ZAM(aluminum - magnesium - zinc) coated.

固定支架 Fixing Bracket



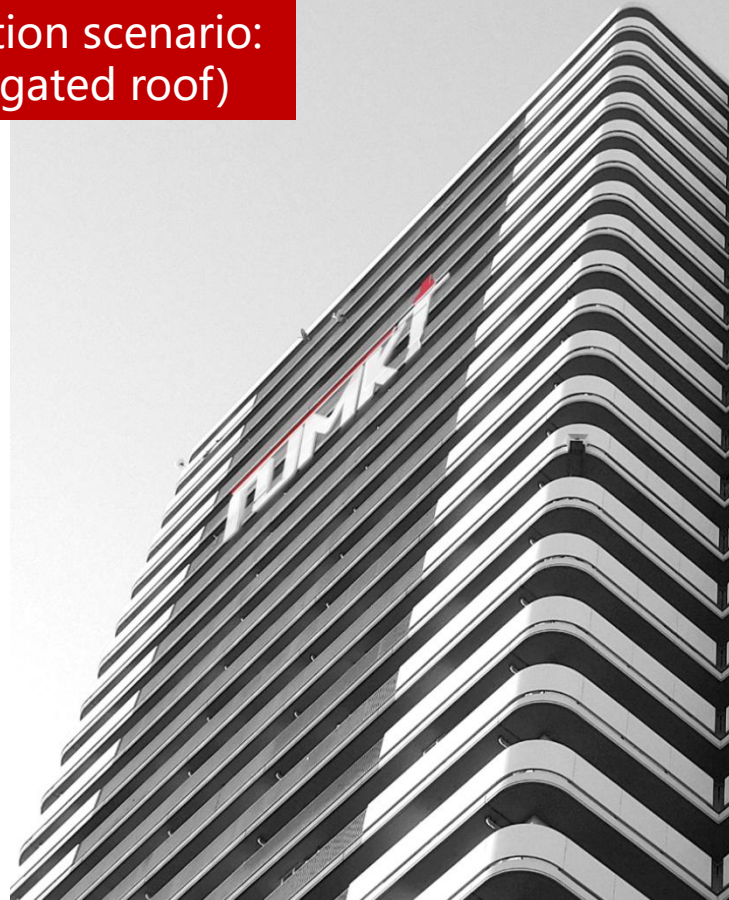
双立柱螺旋钢桩，上部可调节套管。材质热镀锌/镀铝镁锌

2-column spiral steel, upper adjustable sleeve, material HDG or ZAM(aluminum - magnesium - zinc) coated.

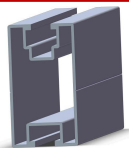
产品二.铝合金支架 Product II: Aluminum Alloy Bracket

应用场景：分布式光伏电站（钢结构瓦楞屋顶）Application scenario:
Distributed PV power station (steel-structured corrugated roof)

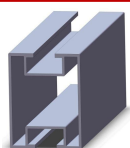
- 2.1 导轨Guide-rail
- 2.2 支架系统零配件 Bracket system parts&accessories
- 2.3 边压/中压 Edge presser / middle presser
- 2.4 彩钢瓦夹具 Color steel tile clamp
- 2.5 夹具Clamps
- 2.6 弯钩 Hook
- 2.7 彩钢瓦屋顶L角支架 L-Angle bracket for color steel tile roof
- 2.8 彩钢瓦屋顶支架（夹具型）Roof bracket for color steel tile (clamp type)
- 2.9 琉璃瓦屋顶支架（直弯钩型）Roof bracket for glazed tile (straight - hook type)
- 2.10 琉璃瓦屋顶支架（平弯钩型）Roof bracket for glazed tile (flat - hook type)
- 2.11 可调角度三角架Adjustable - angle tripod
- 2.12 固定三角架 Fixed tripod
- 2.13 C型钢支架方案C-shaped steel bracket solution
- 2.14 BIPV防水支架方案 BIPV waterproof bracket solution
- 2.15 柔性支架方案设计Flexible bracket solution design



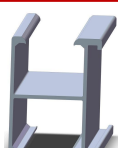
部分产品展示 Display of some products



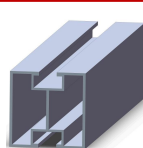
▲ZNN-DG-001



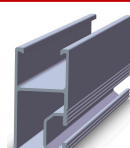
▲ZNN-DG-002



▲ZNN-DG-003



▲ZNN-DG-004



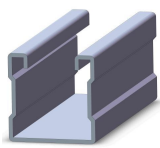
▲ZNN-DG-005



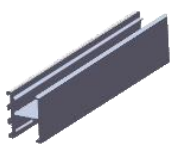
▲ZNN-DG-006



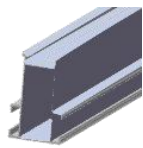
▲ZNN-DG-007



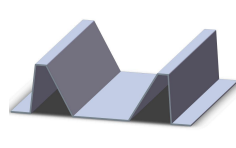
▲ZNN-DG-008



▲ZNN-DG-009



▲ZNN-DG-0010



▲ZNN-DG-0011



▲ZNN-DG-0012

备注：1.材质：6063-T5/6005-T5/Q235B2.所有导轨可定制尺寸

remarks: 1. material: 6063-T5/6005-T5/Q235B2, 2 . All guide rails size customizable



产品优势 Product advantadges

- 安装便捷
easy installing
- 灵活性好
good flexibility
- 兼容性好
good adatability
- 可变性好
good convertibility
- 长久的使用寿命
long lifespan
- 长久的质量保证
long quality warranty

部分产品展示 Display of some products



▲导电片
conductive strip-1



▲导电片
conductive strip-2



▲导水排泥夹
Water-guiding and sludge -
discharging clamp



▲M型格栅卡扣
M-shaped grille
buckle



▲C型格栅卡扣
C-shaped
grille buckle



▲接地端子
earthing
terminal

边压/中压Edge presser / middle presser

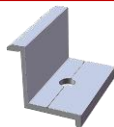
部分产品展示Display of some products



▲ZNN-ZY-001



▲ZNN-BY-001



▲ZNN-BY-002



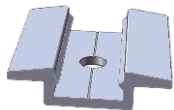
▲ZNN-BY-003



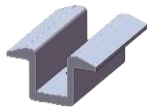
▲ZNN-BY-007



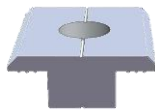
▲ZNN-BY-008



▲ZNN-ZY-002



▲ZNN-ZY-003



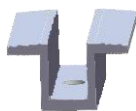
▲ZNN-ZY-004



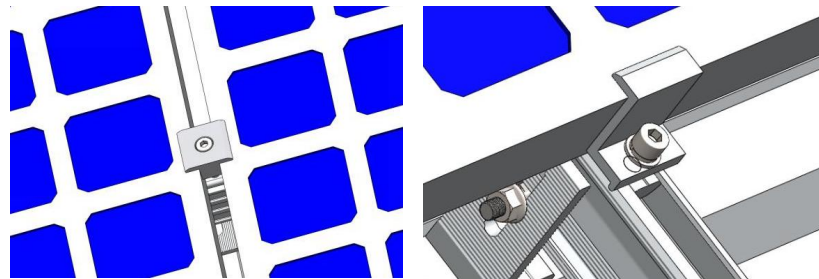
▲ZNN-ZY-005



▲ZNN-ZY-006



▲ZNN-ZY-007



产品优势 Product advantadges

- 安装便捷 easy installing
- 灵活性好 good flexibility
- 兼容性好 good adatability
- 可变性好 good convertibility
- 长久的使用寿命 long lifespan
- 长久的质量保证 long quality warranty

产品规格 Product data

材质 material	Al6005-T5
紧固件 fastners	SUS304
橡胶 rubber	EPDM耐高温、耐腐蚀、低密度 高填充性、高粘接性、高弹性 High temperature resistance, corrosion resistance, low density, high fillability, high adhesiveness, and high elasticity.

彩钢瓦夹具Color steel tile clamp

NUMKI
南京曼卡特



产品优势 product advantage

- 安装便捷 easy installing
- 灵活性好 good flexibility
- 兼容性好 good adaptability
- 可变性好 good convertibility
- 长久的使用寿命 long lifespan
- 长久的质量保证 long quality warranty

产品规格 Product data

材质 material	Al6005-T5
紧固件 fasteners	SUS304
阳极氧化 anodizing	AA10/AA15

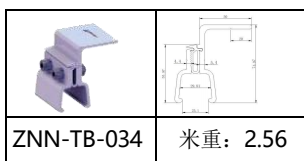
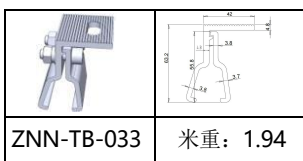
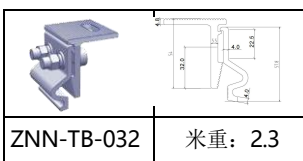
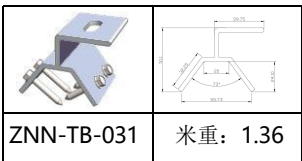
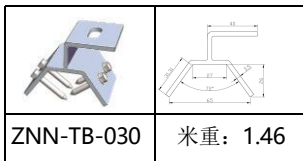
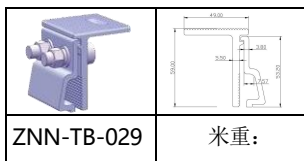
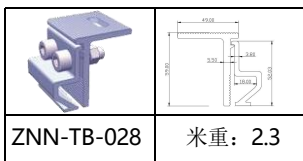
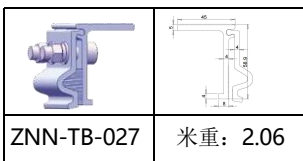
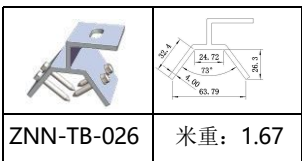
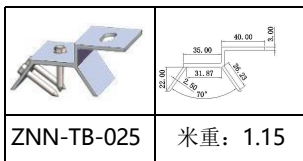
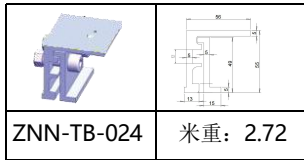
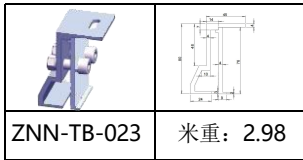
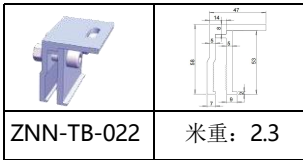
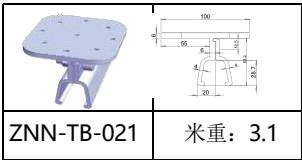
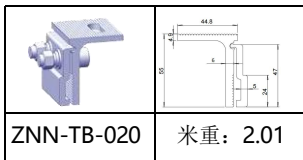
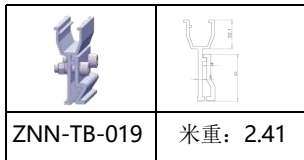
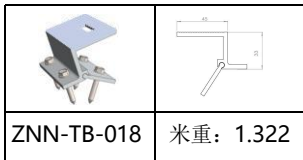
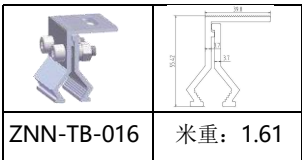
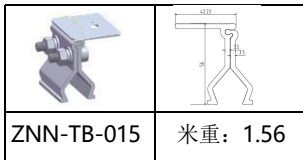
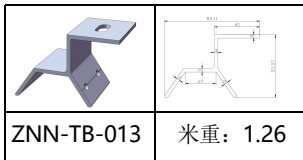
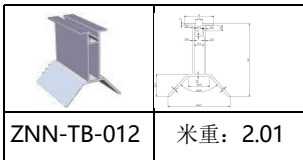
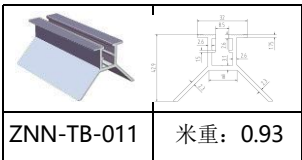
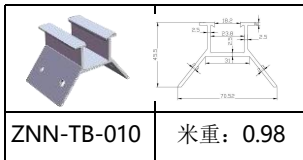
部分产品展示 Display of some products

					
ZNN-TB-001	weight/m: 2.00	ZNN-TB-002	米重 weight/m: 1.88	ZNN-TB-003	米重 weight/m: 1.77
					
ZNN-TB-004	米重 weight/m: 3.11	ZNN-TB-005	米重 weight/m: 2.15	ZNN-TB-006	米重 weight/m: 1.45
					
ZNN-TB-007	米重 weight/m: 1.95	ZNN-TB-008	米重 weight/m: 1.83	ZNN-TB-009	米重 weight/m: 1.45

夹具Clamps

米重 weight/m

南京曼卡特



弯钩 Hook



产品优势 product advantage

- 安装便捷 easy installing
- 灵活性好 good flexibility
- 兼容性好 good adaptability
- 可变性好 good convertibility
- 长久的使用寿命 long lifespan
- 长久的质量保证 long quality warranty

产品规格 Product data

材质 material	SUS304
表面处理 surface process	抛丸、电解、钝化 shot blasting, electrolysis, Passivation
定制化 custom	可接受定制服务 accept custom

部分产品展示 Display of some products



▲ ZNN-TH-001



▲ ZNN-TH-001-1



▲ ZNN-TH-002



▲ ZNN-TH-003



▲ ZNN-TH-004



▲ ZNN-TH-004-1



▲ ZNN-TH-005



▲ ZNN-TH-006



▲ ZNN-TH-007



▲ ZNN-TH-008

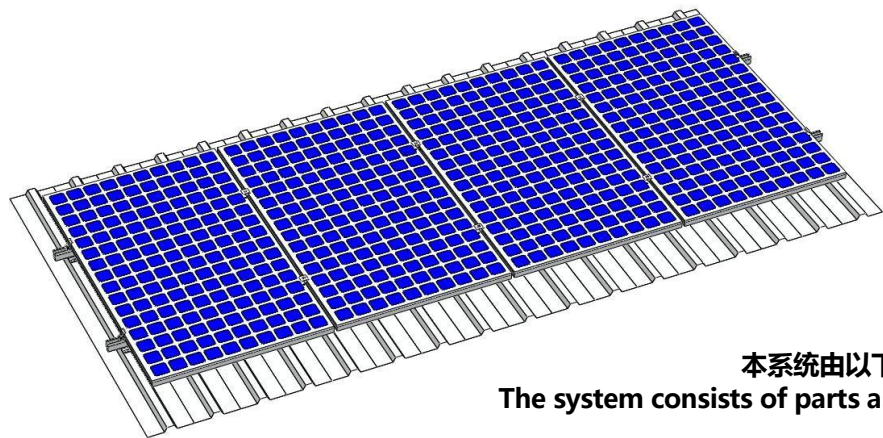


▲ ZNN-TH009

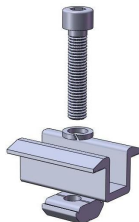
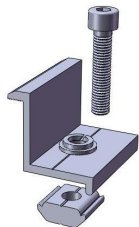
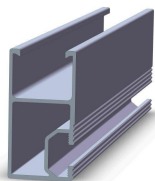


▲ ZNN-TH010

彩钢瓦屋顶L角支架 L-angle bracket for color steel tile roof



本系统由以下零件组成
The system consists of parts as follows:



L角底座、内六角螺栓、平弹垫、防水垫、木螺钉
L-angle base inner-hex bolt, plain spring washer, water-proof gasket, wood screw

导轨
guide rail

边压块、内六角螺栓、中压块、内六角螺栓、平弹垫、滑块螺母、弹垫、滑块螺母
edge-presser, inner-hex bolt, inner-hex bolt, plain slide, mid-presser, nut, pad gasket, slide pad nut

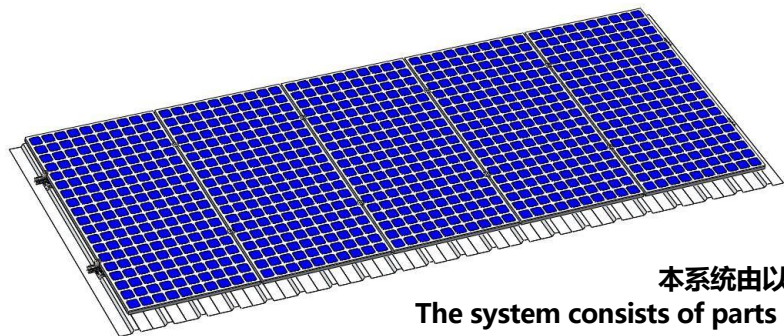
产品说明 Product data

- 安装位置：彩钢瓦/铝镁锰屋顶 installing position: color steel tile/Aluminum - magnesium - manganese roof
- 拉 拔 力 tensile force : 1000N
- 风力承载能力 wind force load : 40m/s、32.5kg/m²、13级 13 grade
- 雪载承受力 snow loadbility : 70Kg/m²
- 材 料：铝型材、不锈钢紧固件、EPDM防水垫
Materials: Aluminum profiles, stainless - steel fasteners, EPDM waterproof gaskets.
- 使用年限：25年 Service life: 25 years.

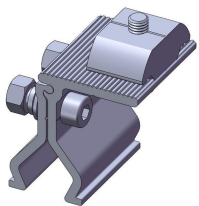
产品优势 Product advantages

- 美观 aesthetically pleasing
- 安装便捷 easy installing
- 多样化设计 versatile design
- 重量轻 light weight
- 节省安装材料 less installing material

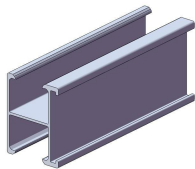
彩钢瓦屋顶支架（夹具型） Roof bracket for color steel tile (clamp type)



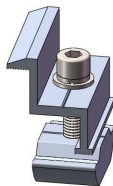
本系统由以下零件组成
The system consists of parts as follows:



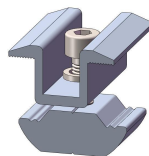
夹具、内六角螺栓、平弹
垫螺母、滑块螺母
clampers, inner-hex
bolt, plain, spring, washer
nut, slide pad nut



导 轨
guid
e rail



边压块、内六角螺栓、中压块、内六角螺栓、平
弹垫、滑块螺母、弹垫、滑块螺母
edge-presser, inner-hex bolt, mid presser, inner-hex
bolt, slide-pad nut, plain spring washer, spring
washer slide pad nut



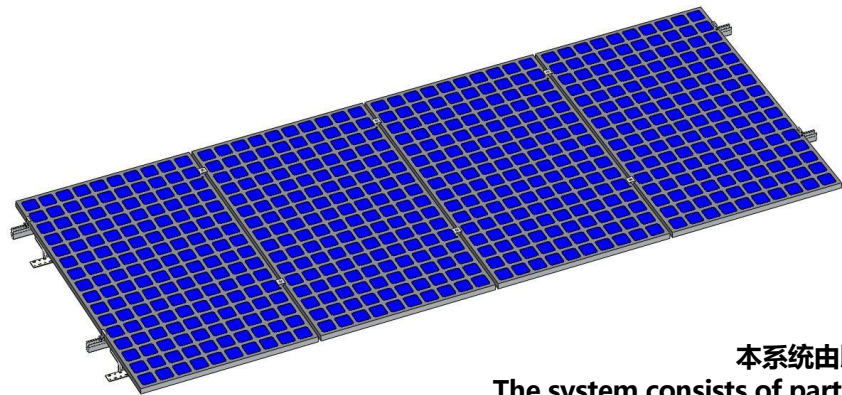
产品说明 Product data

- 安装位置：彩钢瓦/铝镁锰屋顶
installing position: color steel tile/Aluminum -
magnesium - manganese roof
- 拉 拔 力 tensile force : 1000N
- 风力承载能力 wind force loadability : 40m/s,
32.5kg/m²、13级 13 grade
- 雪载承受力 snow loadability : 70Kg/m²
- 材 料：铝型材、不锈钢紧固件 Materials:
Aluminum profiles, stainless - steel fasteners
- 使用年限：25年 Service life: 25 years.

产品优势 Product advantages

- 美观 aesthetically pleasing
- 安装便捷 easy installing
- 多样化设计 versatile design
- 重量轻 light weight
- 节省安装材料 less installing material

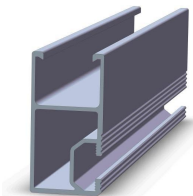
琉璃瓦屋顶支架Roof bracket for glazed tile (straight - hook type)



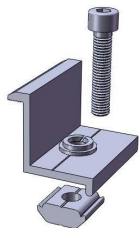
本系统由以下零件组成
The system consists of parts as follows:



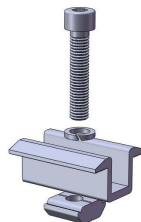
弯钩、木螺钉、内六角螺栓、平弹垫螺母
hook, wood screw, inner-hex bolt, plain spring washer nut



导轨
guide rail



边压块、内六角螺栓、平弹垫、滑块螺母
edge-presser, inner-hex bolt, plain spring washer, slide-pad nut



中压块、内六角螺栓、平弹垫、滑块螺母
mid-presser, inner-hex bolt, plain spring washer, slide-pad nut

产品说明 Product data

安装位置：琉璃瓦屋顶

Installation Location: Glazed Tile Rooftop

拉拔力：1000N

Pull-out Force: 1000N

风力承载能力：40m/s、32.5kg/m²、13级

Wind Load Capacity: 40m/s, 32.5kg/m², Level 13

雪载承受力：70Kg/m²

Snow Load Capacity: 70kg/m²

材料：铝型材、不锈钢紧固件

Material: Aluminum profiles, stainless steel fasteners

使用年限：25年

Service Life: 25 years

产品优势 Product advantages

- 美观 aesthetically pleasing
- 安装便捷 easy installing
- 多样化设计 versatile design
- 重量轻 light weight
- 节省安装材料 less installing material

琉璃瓦屋顶支架 (平弯钩型) Roof bracket for glazed tile (flat - hook type)

产品说明 Product data

安装位置：琉璃瓦屋顶

Installation Location: Glazed Tile Rooftop

拉拔力：1000N

Pull-out Force: 1000N

风力承载能力：40m/s、32.5kg/m²、13级

Wind Load Capacity: 40m/s, 32.5kg/m², Level 13

雪载承受力：70Kg/m²

Snow Load Capacity: 70kg/m²

材料：铝型材、不锈钢紧固件

Material: Aluminum profiles, stainless steel fasteners

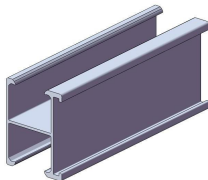
使用年限：25年

Service Life: 25 years

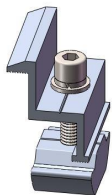
本系统由以下零件组成
the system consists of parts as follows



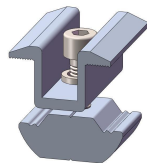
弯钩、木螺钉、内六角螺栓、平弹垫、滑块螺母
hook, wood screw, inner-hex bolt, plain spring washer, slide nut



导轨
guide rail



边压块、内六角螺栓、平弹垫、滑块螺母
edge-presser, inner-hex bolt, plain spring washer, slide-pad nut

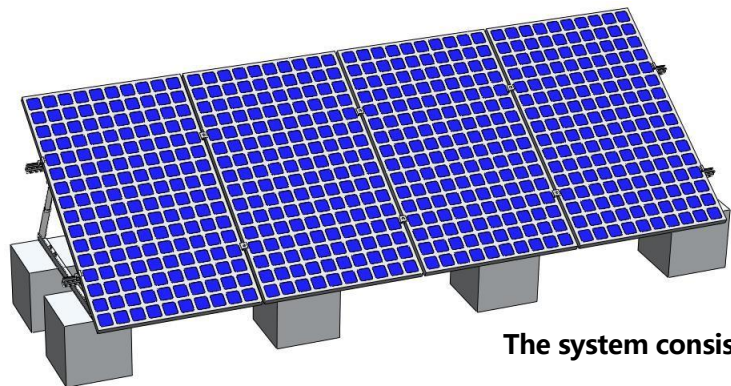


中压块、内六角螺栓、平弹垫、滑块螺母
mid-presser, inner-hex bolt, spring washer slide-pad nut

产品优势 Product advantages

- 美观 aesthetically pleasing
- 安装便捷 easy installing
- 多样化设计 versatile design
- 重量轻 light weight
- 节省安装材料 less installing material

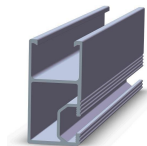
可调角度三角架angle-adjustable tripod



本系统由以下零件组成
The system consists of parts as follows:



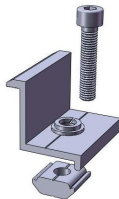
可调节三角架、膨胀螺栓、内六角螺栓、平弹垫螺母
adjustable tripod, expansion bolt, inner-hex bolt, plain spring washer nut



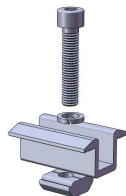
导轨
guide rail



边卡、内六角螺栓、法兰螺母
edge buckle, inner-hex bolt, flange nut



边压块、内六角螺栓、平弹垫、滑块螺母
edge-presser, inner-hex bolt, plain spring washer, slide-pad nut



中压块、内六角螺栓、弹垫、滑块螺母
mid-presser, inner-hex bolt, spring washer slide-pad nut

产品说明

安装位置：地面/平面屋顶

Installation Location: Ground / Flat Rooftop

风力承载能力：40m/s、32.5kg/m²、13级

Wind Load Capacity: 40m/s, 32.5kg/m², Level 13

雪载承受力：70Kg/m²

Snow Load Capacity: 70kg/m²

材料：铝型材、不锈钢紧固件

Material: Aluminum profiles, stainless steel fasteners

使用年限：25年

Service Life: 25 years

产品优势 Product advantages

•安装便捷

•easy installing

•灵活性好

•good flexibility

•兼容性好

•good adaptability

•强度高，安装范围广

•high tensile, wide safe range

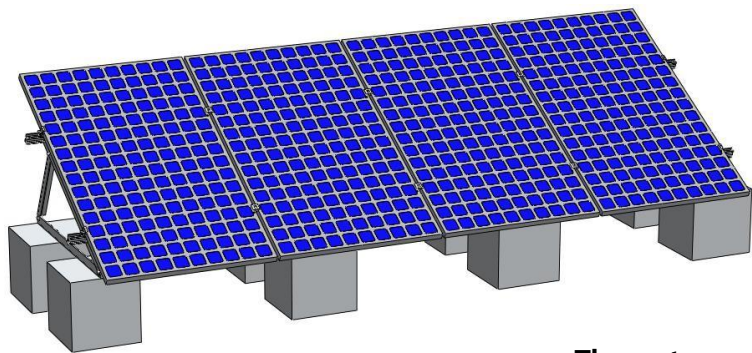
•长久的使用寿命

•long service life

•长久的质量保证

•long quality warranty

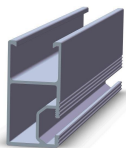
固定三角架 Fixed tripod



本系统由以下零件组成
The system consists of parts as follows:



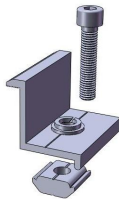
三角架、膨胀螺栓、内六角螺栓、平弹垫螺母
tripod, expansion bolt, inner-hex bolt, plain spring washer nut



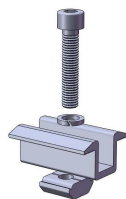
导轨
guide rail



边卡、内六角螺栓、法兰螺母
edge buckle, inner-hex bolt, flange nut



边压块、内六角螺栓、平弹垫、滑块螺母
edge-presser, inner-hex bolt, plain spring washer, slide-pad nut



中压块、内六角螺栓、弹垫、滑块螺母
mid-presser, inner-hex bolt, spring washer slide-pad nut

产品说明

安装位置：地面/平面屋顶

Installation Location: Ground / Flat Rooftop

风力承载能力：40m/s、32.5kg/m²、13级

Wind Load Capacity: 40m/s, 32.5kg/m², Level 13

雪载承受力：70Kg/m²

Snow Load Capacity: 70kg/m²

材料：铝型材、不锈钢紧固件

Material: Aluminum profiles, stainless steel fasteners

使用年限：25年

Service Life: 25 years

产品优势 Product advantages

•安装便捷

•easy installing

•灵活性好

•good flexibility

•兼容性好

•good adaptability

•强度高，安装范围广

•high tensile, wide safe range

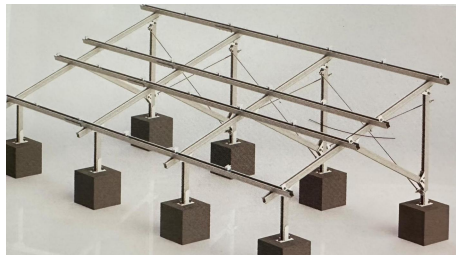
•长久的使用寿命

•long service life

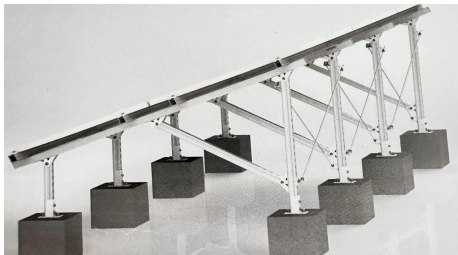
•长久的质量保证

•long quality warranty

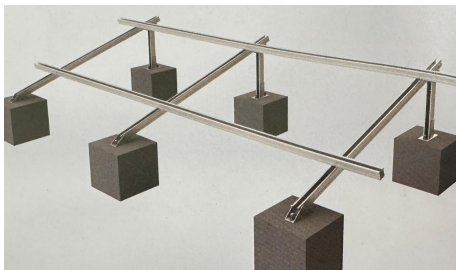
C型钢支架方案C-shaped steel bracket solution



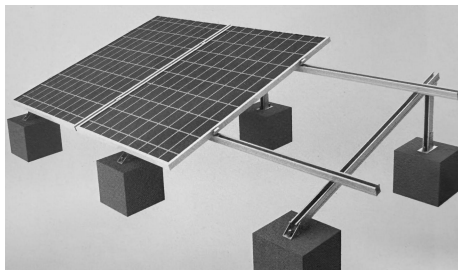
ZNN008-1双排组件C钢方案
ZNN008-1 2-row module
C steel plan



ZNN008-1双排方案背面效果图
ZNN008-1 double-row back view



ZNN008-2单排组件C钢方案
ZNN008-2 single-row C-steel plan



ZNN008-2单排组件C钢方案
ZNN008-2 single-row C-steel plan

产品说明

安装位置：地面/平面屋顶
installing position: ground/plain roof
风力承载能力wind force loadability : 40m/s、
32.5kg/m²、13级 13 grade
雪载承受力snow loadability : 70Kg/m²
材 料：Q235B热镀锌钢材/锌铝镁材料
Materials: Q235BHDG steel/ZAM
使用年限：25年 Service life: 25 years.

产品优势 Product advantadges

- 安装便捷
- easy installing
- 灵活性好
- good flexibility
- 兼容性好
- good adaptability
- 强度高，安装范围广
- high tensile, wide safe range
- 长久的使用寿命
- long service life
- 长久的质量保证
- long quality warranty

BIPV防水支架方案 BIPV waterproof bracket solution



产品说明Plan discription

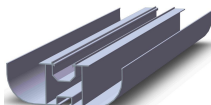
本方案采用光伏组件做屋顶，能起到防水发电，透光的作用。同时省掉了传统的陶瓷瓦或金属瓦，节约了建筑成本。本方案可以采用铝合金防水支架，也可以选择锌铝镁防水支架，支架经过特殊物理结构设计，完美实现系统的永久防漏防水，一旦安装成功，终身防水。本系统适合大面积的工厂屋顶，家庭阳光房以及露台屋顶，成本性价比高。This solution uses PV modules as roof to waterproofly generate power and let in light and save the cost of traditional ceramic tiles or metal tiles. Using Al-alloy or ZAM waterproof and designed with a special physical structure, this bracket perfectly achieves permanent leak-proof and waterproof efect. Life-long waterproofing is enabled upon installing complection . Suitable for the roofs of large factories, home sunrooms, and terrace roofs, this system has a high cost-performance ratio.

BIPV防水系统主要配件

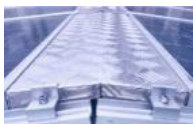
main parts of BIPV waterproof system:



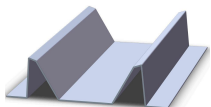
铝合金/锌铝镁M水槽
Al-alloy/ZAM M-sink



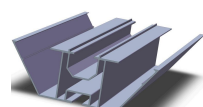
铝合金W水槽
Al-alloy W-sink



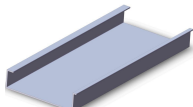
铝合金/锌铝镁踏板
Al-alloy/ZAM footboard



铝合金/锌铝镁M水槽
Al-alloy/ZAM M-sink



铝合金W水槽
Al-alloy W-sink



铝合金/锌铝镁横向导水槽
Al-alloy/ZAM horizontal
water guide

产品优势 Product advantadges

- 安装便捷
- easy installing
- 灵活性好
- good flexibility
- 兼容性好
- good adaptability
- 强度高，安装范围广
- high tensile, wide safe range
- 长久的使用寿命
- long service life
- 长久的质量保证
- long quality warranty

柔性支架方案设计

Flexible bracket solution design

随着高强度索材的发展，空间索结构在桥梁、建筑行业中应用已经十分广泛，在诸如悬索桥、斜拉桥、体育场馆、会展中心等公共建筑中非常活跃的结构形式。索结构作为承重结构具有显著的优点，例如：With the development of high-strength cable materials, spatial cable structures have been widely applied in bridges and construction. They are a very active structure in public buildings such as suspension bridges, cable-stayed bridges, stadiums, and exhibition centers. Cable structures, as load-bearing structures, have remarkable advantages. For example:

产品优势 Product advantages

- 降低结构用钢量
less steel consumption for structure
- 结构轻盈通透
make structure appear light, airy, translucent
- 施工方便快捷
easier construction



柔性支架方案设计(体系优化)

Flexible bracket solution design (optimized system)

新型双索交叉弦支柔性光伏支架体系由上层两根平行布置的安装索和下层两根端部交叉布置的承重索（均采用 $\phi 12.7\text{mm}$ 钢绞线），以及中间间隔布置的三角形支撑组成，同时可以通过前后联系桁架组成阵列布置。相对于常规单层拉索柔性光伏支架的优势主要有：

The new 2-cable cross-string flexible PV bracket system is composed of two parallel upper installation cables, two lower load-bearing cables with cross-ends (both using $\phi 12.7\text{mm}$ steel strands), and intervally middle triangular brackets. It also forms an array through front-rear connecting trusses. Compared with conventional single-layer cable flexible PV bracket, its main advantages are as follows:

产品优势 Product advantages

- 减小钢绞线直径，进一步降低钢绞线用量及其配套节点规格，施工更加便捷；
smaller strand diameter, less consumption of steel strand and its nodes' dimensions smaller, easier construction.
- 双层拉索布置可以极大提高结构承载能力，降低预应力大小；
2-layer cables brings much greater loadability and less pre-stress.
- 交叉双索布置可以在一定程度上提高水平方向的刚度，增强结构整体性；
crossed double cables rises horizontal hardness and entire rigidity of structure.
- 每列之间通过桁架相连，提高结构整体性和稳定性。
each line connected with trusses gives better integrity and stability of structure.

柔性支架方案特点（单层索）

Features of flexible bracket plan (single-layer cable)

- 15-20m大跨距设计，适合农光以及渔光等架高光伏项目；
- 减少桩基用量：每兆瓦用桩量低至180支；
- 适应大倾角：可使组件倾斜角度实现更大倾角，提升发电量；
- 安装简单：通过特殊张拉结构、螺牙实现钢绞线的张紧调节；
- 成本更低：通过优化结构，优化钢绞线布置方式等，在减少桩基

用量情况下，比传统电站减少2~5%的投资成本；

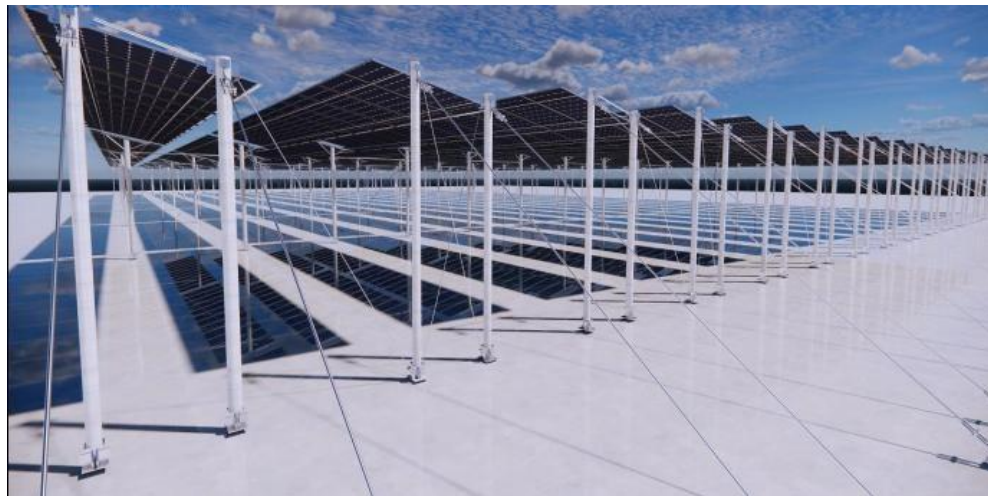
designed large span of 15-20 meters suitable for height PV projects like agriculture PV and fishery PV.

Reduced pile foundations: pile/MW as few as 180.

Adaptable to large tilt angles: modules enable larger tilt angle to increase power generation.

Simple installation: The tensioning adjustment of steel strands are achieved through a special tensioning structure and screw threads.

Lower cost: By optimized structure and arrangement of steel strands, etc., and with fewer pile foundations, the investment cost is 2-5% lower than that of traditional power stations.



柔性支架方案特点（双层索）

Features of flexible bracket plan (2-layer cable)

- 近40m大跨距设计，适合农光以及渔光等架高光伏项目；
- 减少桩基用量：每兆瓦用桩量低至108支；
- 抗风能力强：下层采用特有的双索，喇叭口的张悬结构；有效提升整体抵抗风荷载水平力的能力，前后排桁架式连接，以及上、下双层索结构，有效减少大跨度结构的悬垂比、提升支架整体抗风能力；
- 适应大倾角：可使组件倾斜角度实现更大倾角，提升发电量；
- 安装简单：通过特殊张拉结构、螺牙实现钢绞线的张紧调节；
- 成本更低：通过优化结构，优化钢绞线布置方式等，在减少桩基用量情况下，比传统电站减少2~5%的投资成本；

designed large span of 40 meters suitable for height PV projects like agriculture PV and fishery PV.

Reduced pile foundations: pile/MW as few as 108.

Strong wind resistance: unique lower 2-cable structure with a flared suspension design effectively enhances the overall horizontal wind load resisting forces. the front and rear truss connection and upper-lower double-layer cable structure, effectively balances the sag ratio of large span and improves the overall wind resistance of the bracket.

Adaptable to large tilt angles: modules enable larger tilt angle to increase power generation.

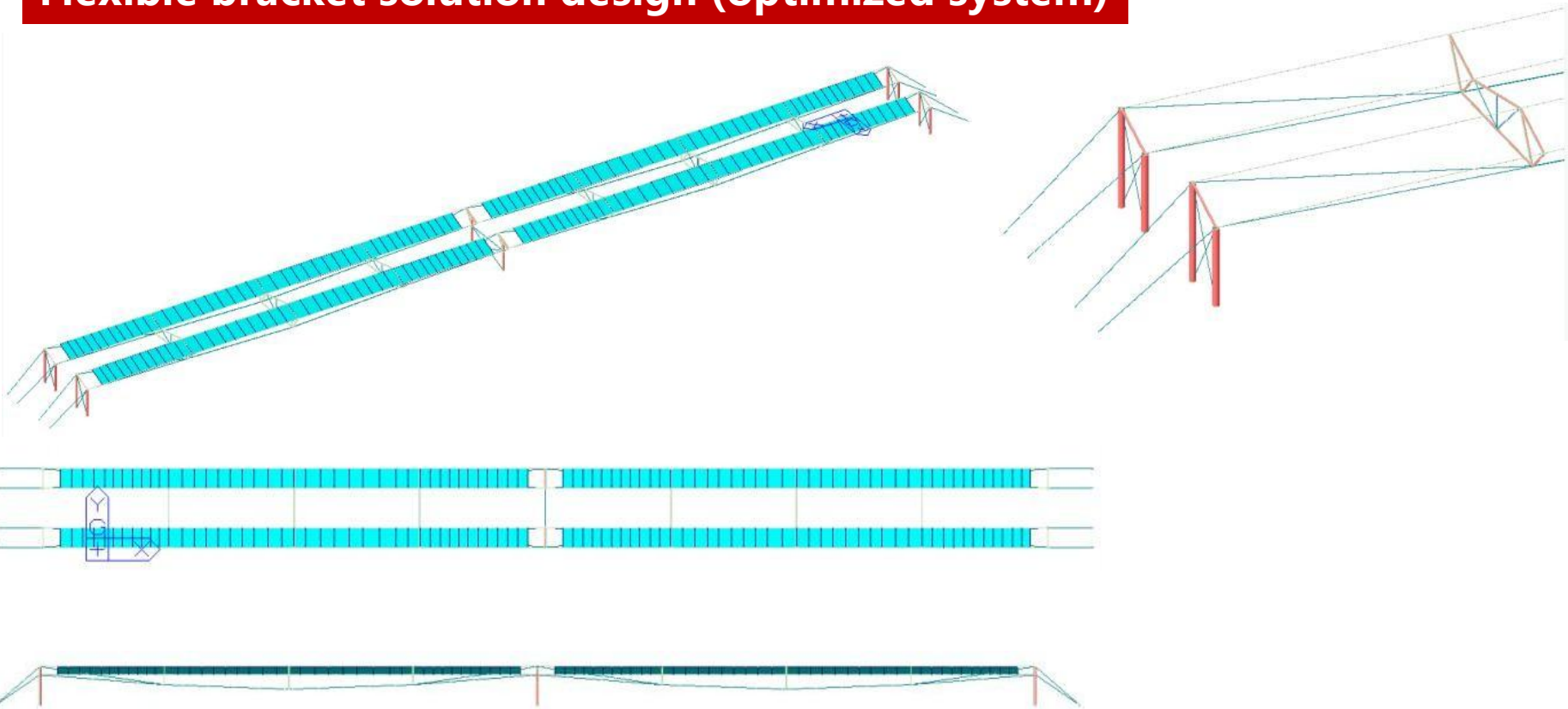
Simple installation: The tensioning adjustment of steel strands are achieved through a special tensioning structure and screw threads.

Lower cost: By optimized structure and arrangement of steel strands, etc., and with fewer pile foundations, the investment cost is 2-5% lower than that of traditional power stations.



柔性支架方案设计（体系优化）

Flexible bracket solution design (optimized system)



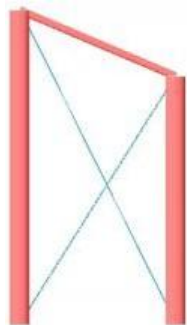
柔性支架方案设计 (体系优化)

Flexible bracket solution design (optimized system)

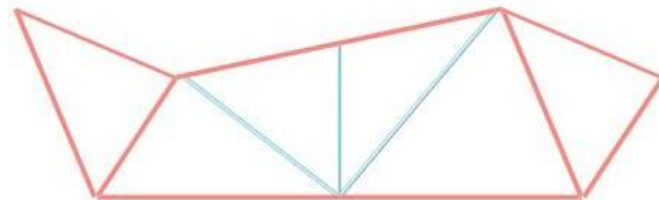
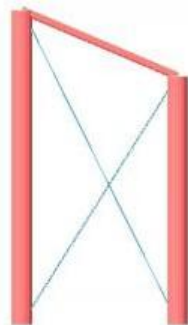
公称直径 D_n /mm nominal diameter	涂层厚度 / μm coating thickness	抗拉强度 f_{ptk} /MPa tensile strength	整根钢绞线 的最大力 F_m /kN top force of entire steel strand	规定非比例 延伸力 $F_{po.2}$ /kN specified non - proportional extension force	最大力总伸长率 total elongation for top force	1000 h 松弛值 (初 始负荷为70%公 称最大力) / % 1000h relaxation value (initial load 70% of nominal top force)
12. 70	380~1140	1 960	193	174	≥ 3.5	≤ 6.5
		1 860	184	166		
15. 20	380~1140	1 860	279	251	≥ 3.5	≤ 6.5
		1 770	266	239		
15. 70	380~1140	1 860	279	251	≥ 3.5	≤ 6.5
		1 770	266	239		
17. 80	380~1140	1 860	353	318	≥ 3.5	≤ 4.5
		1 720	327	294		
21. 60	380~1140	1 860	530	477	≥ 3.5	≤ 4.5
		1 770	504	454		≤ 2.5

柔性支架方案设计（布置优化）

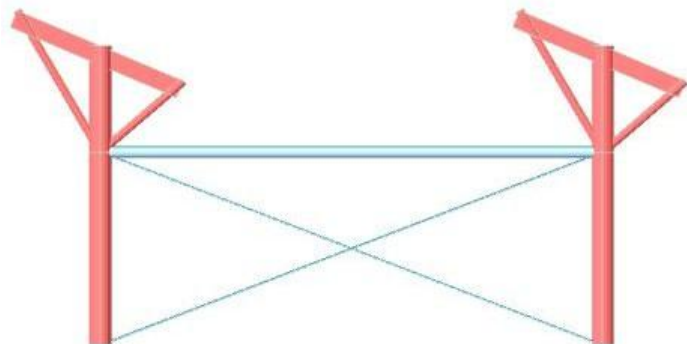
Flexible bracket solution design (optimized arrangement)



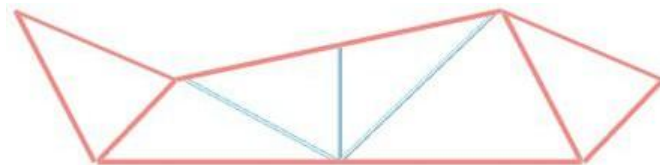
端柱剖面end column section



中心桁架middle truss



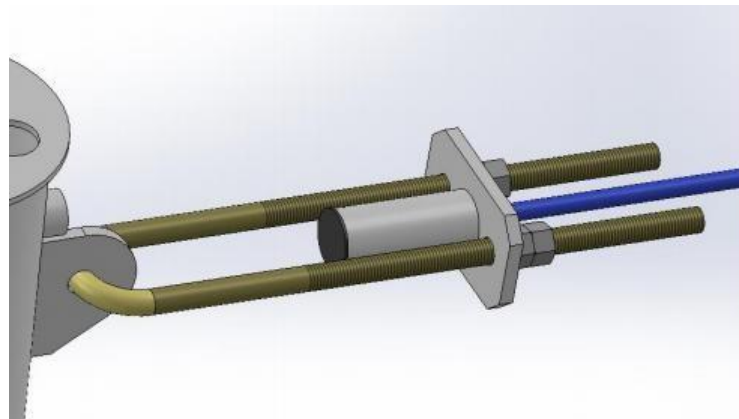
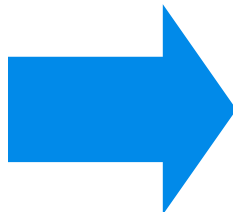
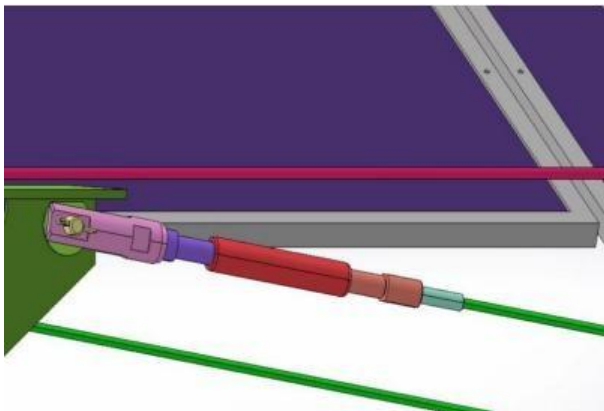
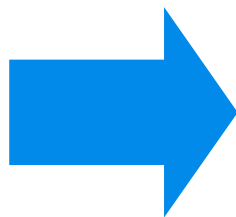
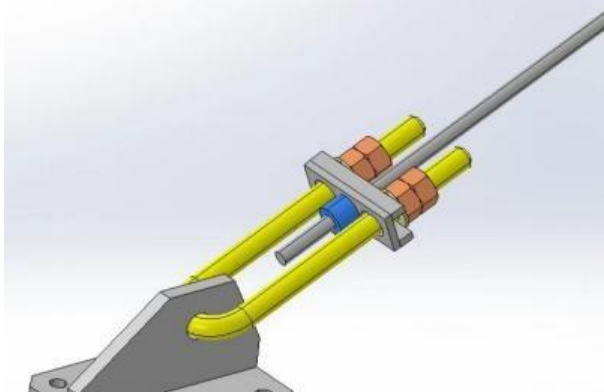
中柱剖面middle column section



两侧桁架side truss

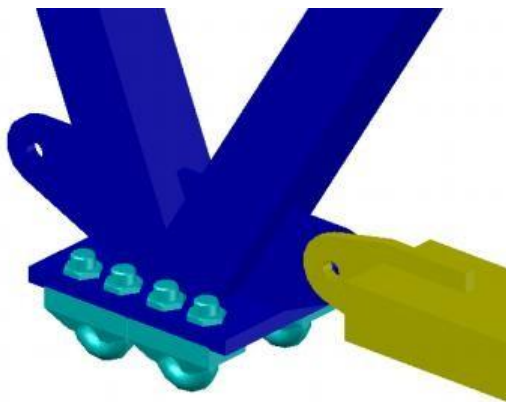
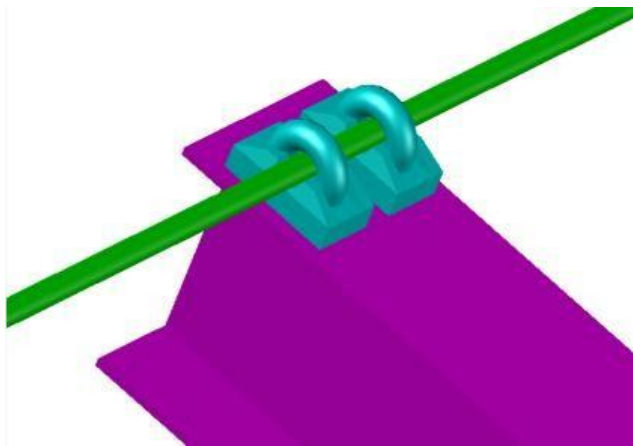
柔性支架方案设计（节点优化）

Flexible bracket solution design (optimized noids)



柔性支架方案设计（节点优化）

Flexible bracket solution design (optimized noids)

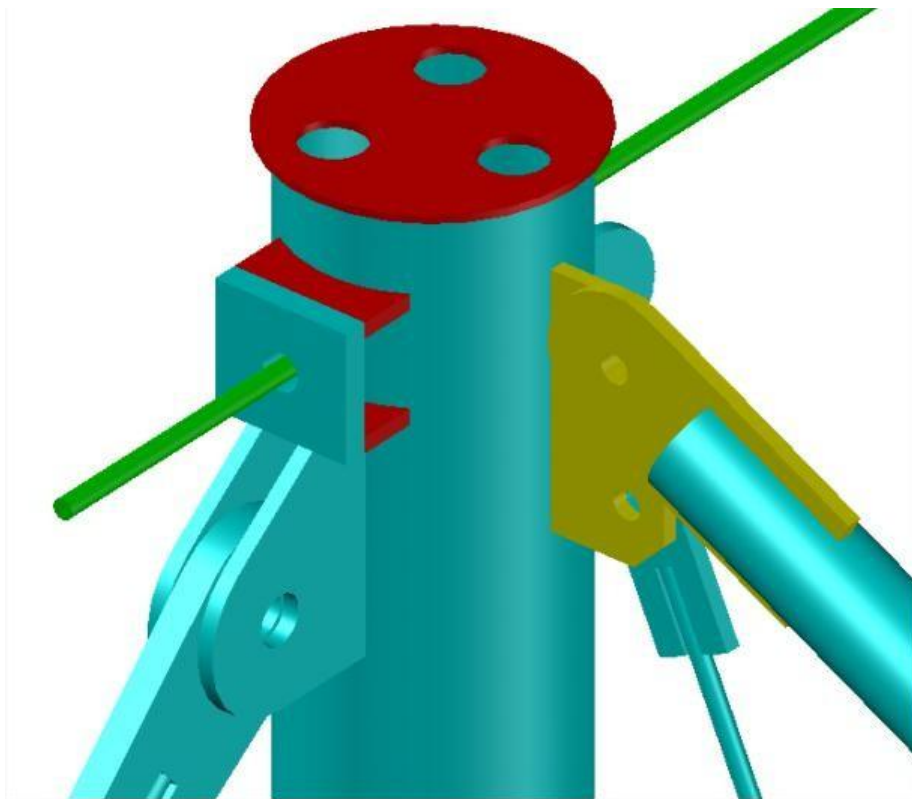


柔性支架方案设计（节点优化）

Flexible bracket solution design (optimized noids)

NJMKT

南京曼卡特

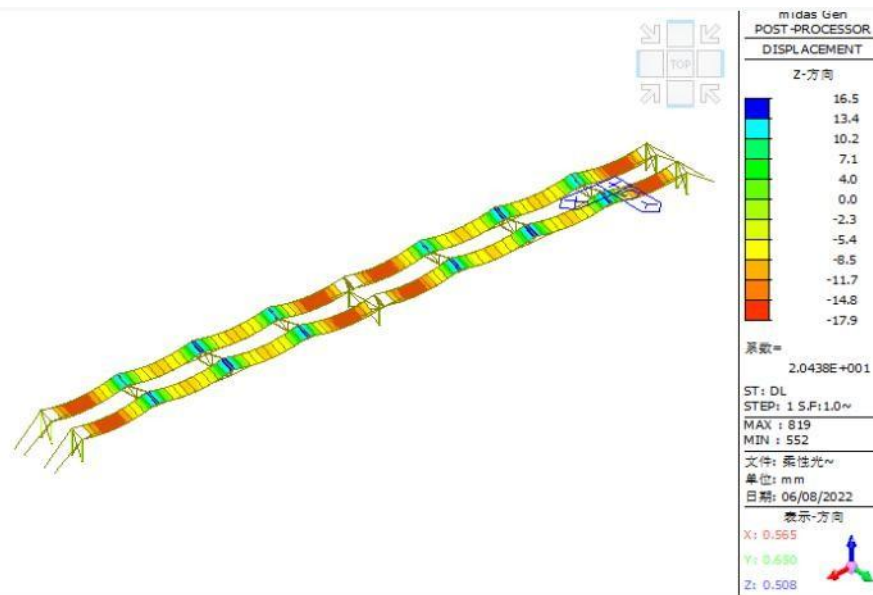


柔性支架方案设计 (计算结果)

Flexible bracket solution design(calculated result)

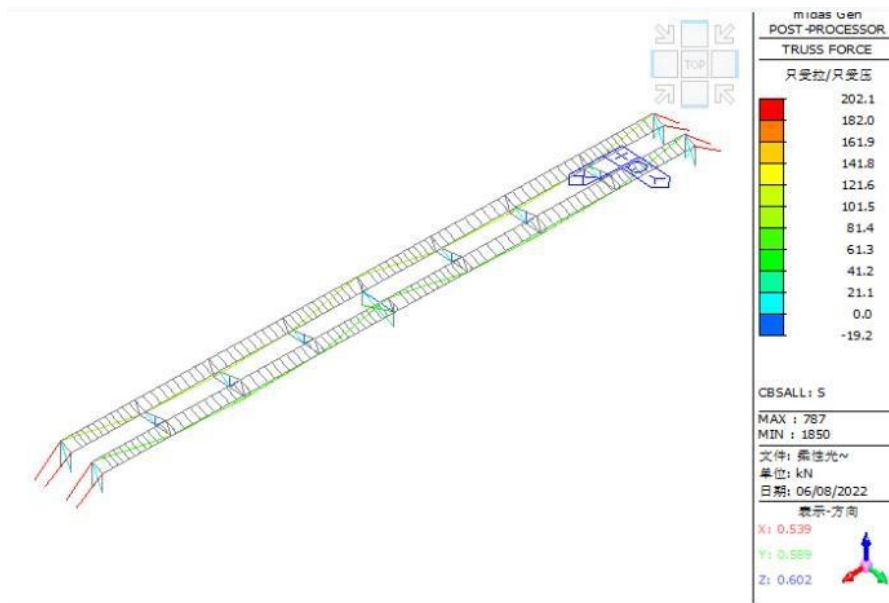
自重工况竖向位移

Vertical displacement under self-weight occasions



极限工况单元内力

inner force /unit for extrem occasions



柔性支架方案设计 (计算结果)

Flexible bracket solution design(calculated result)

风压控制极限工况竖向位移

Vertical displacement under ultimate occasion
controlled by wind pressure



风吸控制极限工况竖向位移

Vertical displacement under ultimate occasion
controlled by wind suction



柔性支架施工 Flexible bracket building

随着索结构施工技术的发展，复杂的拉索结构通常采用**无支架安装**方法即**在地面组装完成**

（包括部分节点和杆件）

空中牵引提升

（形成安装作业空间后，可在空中累积安装部分杆件）

高空张拉成形

With the development of cable construction technology, complex cable structures usually adopt bracket-free installation method, namely:

Ground assembly (including partial nodes and rods):

Assemble the modules on the ground.

Aerial traction and lifting: After creating an installation space, some rods can be cumulatively installed in the air during the lifting process.

High - altitude tensioning and forming: Tension the structure at high altitude to achieve the final shape.



柔性支架施工Flexible bracket building

地面组装完成：可将上层索和下层索组成索杆体系后整体提升。

空中牵引提升：采用前卡式千斤顶提升上层安装索。

高空张拉成形：采用扭力扳手对下层承重索进行张拉。

Ground assembly: The upper lower cables assembled into a cable rod system and then lifted as a whole.

Aerial lifting: Use a front-buckle jack to lift the upper installation cables.

High tensioning to a form: Use a torque wrench to tension the lower load- bearing cables.



穿心前卡式千斤顶

penetrating front-buckle jack



柔性支架施工 Flexible bracket building



柔性支架检测 Flexible bracket inspection



产品三.太阳能面板

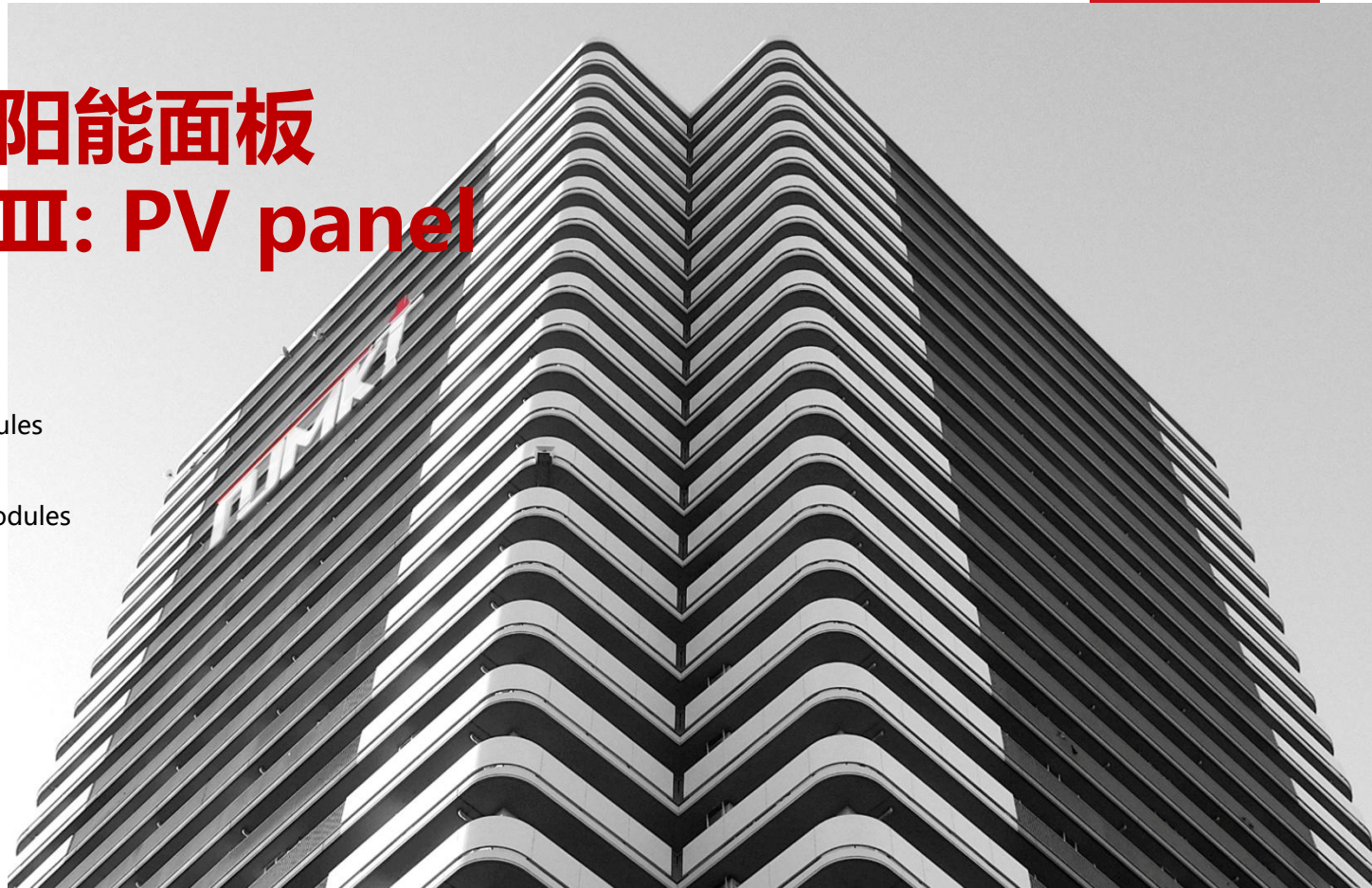
Product III: PV panel

3.1 高效PERC组件

High - efficiency PERC modules

3.2 高效Topcon组件

High - efficiency Topcon modules



高效PERC组件 High - efficiency PERC modules

21.65%

高效率
high
efficiency

无损切片技术，有效降低热斑损失
Damageless
slicing tech
effectively
reduces thermal-spot-related loss

9.5%

更高IRR可达
9.2%
higher IRR
reaching
9.2%

双面电池，更高
内部收益率
2-side
battery, higher
inner gain

2.1%

更低LCOE
下降2.4%
lower
LCOE by
2.4%

低衰减，掺镓技术，
衰减更小
Gallium doping
into silicon lowers
attenuation

1.8°C

半片设计 降低组件温
度1.6°C
Half-battery
design lowers
module
temperature by
1.6°C

多主栅技术，有效
减少功率损失
Multiple main grid
tech effectively
reduces power
loss



组件可承受雪压达**5400Pa**
Max. Snow Pressure is 5400 Pa
承受风压达**2400Pa**
Max. Wind Pressure is 2400 Pa



保证输出功率
Guarantee output power
(0~+5W)



在弱光照条件下
Under weak illumination conditions
(多云天气和清晨、傍晚) 具备高性能
(Cloudy & Early morning - evening) Have High performance



符合ISO9001
国际质量管理体系标准
International Quality Management System Standard

高效PERC组件 High - efficiency PERC modules

主流产品 Major products

组件类型 module type	电池片尺寸 battery chip size	组件尺寸 (mm) module size	重量 (kg) weight	功率 (W) power
M10-54-单玻 single-glass	182*182	1722×1134×30	21.5	420
M10-54-双玻 double-glass	182*182	1722×1134×30	24.5	420
M10-72-单玻single-glass	182*182	2278×1134×35	28.6	560
M10-72-单玻single-glass	182*183.75	2278×1134×35	28.7	565
M10-72-双玻double-glass	182*182	2278×1134×30	32.5	560
M10-72-双玻double-glass	182*183.75	2278×1134×30	32.6	565
M10-78-单玻single-glass	182*182	2465×1134×35	29.3	600
M10-78-双玻double-glass	182*182	2465×1134×35	33.4	600

高效Topcon组件 High - efficiency Topcon modules

NUMKT
南京曼卡特

22.55%

高效率
high efficiency

75%-85%

高双面率
high 2-face
efficiency

< 1%

低衰减 首年 < 1%，每
年-0.4% low
attenuation: 1st year
< 1%, -0.4%/year
after

-0.3%/°C

低温度系数
low temperature
coefficient

30年

双玻组件平均寿命可达
30年

2-glass module
average service life
reaches 30 years

LCOE

高发电增益，有效
降低LCOE

high power
generation gain
effectively reduces
LCOE

8% -25%

高背面发电增益双
玻组件背面可带来

8%-25%收益
high back-generation
gaining 2-glass module
backside brings 8%-25%
revenue

Class A

防火等级可
达Class A，

适应各种严苛环境
anti-fire class
reaches A, fit for
various harsh
occasions



组件可承受雪压达**5400Pa**
Max. Snow Pressure is 5400 Pa
承受风压达**2400Pa**
Max. Wind Pressure is 2400 Pa



保证输出功率
Guarantee output power
(0~+5W)



在弱光照条件下
Under weak illumination conditions
(多云天气和清晨、傍晚) 具备高性能
(Cloudy & Early morning, evening) Have Lgt. performance



符合ISO9001
国际质量管理体系标准
International Quality Management System Standard

高效Topcon组件 High - efficiency Topcon modules

主流产品 Major products

组件类型 module type	电池片尺寸 battery chip size	组件尺寸 (mm) module size	重量 (kg) weight	功率 (W) power
M10-54-双玻double-glass	182*182	1722×1134×30	24.5	435
M10-72-双玻double-glass	182*182	2278×1134×30	32.5	575
M10-72-双玻double-glass	182*183.75	2278×1134×30	32.6	580
M10-78-双玻double-glass	182*182	2465×1134×35	33.4	620
M10-78-双玻double-glass	182*183.75	2465×1134×35	33.6	625

应用场景 application occasions

户用分布式 Residencial distributed

- 适配不同屋顶，安装容量最大化
- 合作伙伴赋能机制
- 分布式传播矩阵
- fit for various rooftops, maximized installation capacity.
- partner empowering mechanism
- distributed transmission matrix

工商业分布式 Industrial&commercial distributed

- 全场性价比最高
- BIPV 解决方案
- highest cost performance
- BIPV solution

大型地面项目 Large ground project

- 最优度电成本选择
- 电站全生命周期解决方案
- optimal choice of Cost per Unit of Electricity
- full Life cycle solution for power station



微信公众号
WeChat
Public
Account



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Website



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