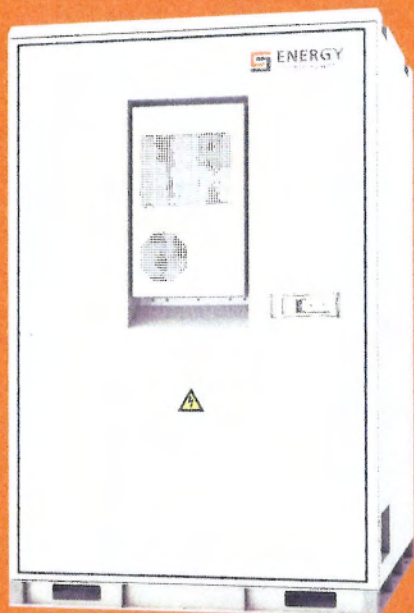


Golden Sigma



SU340U85K/SU340U170K

Outdoor Air-Cooling Cabinet BESS

System Controller



Short Circuit Protection



Rack Level Lockable Disconnect



Water-based suppression System



Intrusion Detect System



Fire Detection and Suppression



HIGHLIGHT

- Low Capex
- Plug and Play
- Low Field Labor Cost
- Pre-Populated with Batteries
- Flexible Deployment According to The Site Layout

Technical Specification

Item	Specification
System Model	SU340U85K SU340U170K

System Information

Nominal Power	85kW 170kW
Nameplate Capacity	340.48kWh

Battery Information

Battery Chemistry	LFP
Capacity	280Ah
Configuration	380S1P
Nominal Voltage	1,216V
Voltage Range	1,064 ~ 1,368V

Working Conditions

Degree of Protection	NEMA 3R / IP54
Noise Emission	≤65dB @1m
Operating Temperature Range	-22° F ~ 113° F / -30° C ~ 45° C
Relative Humidity	0~95% (Non-condensing)
Max.Working Altitude	6,500/2,000m

System Information

Dimensions(W×H×D)	1,480x2,330x1,390
Weight	8,378lbs / 3,800kg
Cooling	HVAC
Fire Suppression System	Aerosol
Certificate	IEC62619, UL1973, UL9540A

Outdoor Air-Cooling Cabinet BESS

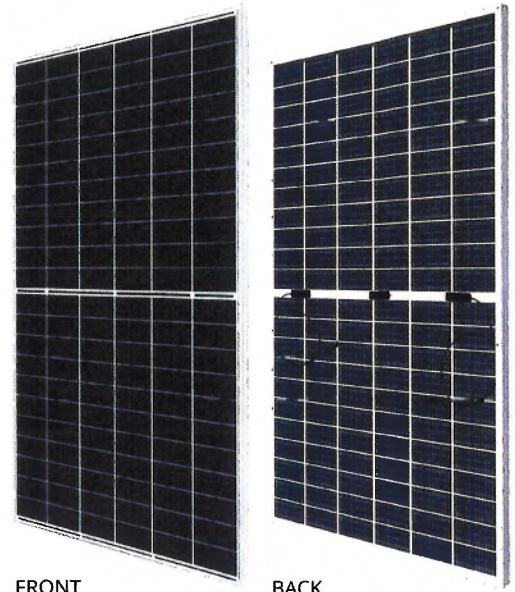


BiHiKu7

BIFACIAL MONO PERC

640 W ~ 665 W

CS7N-640 | 645 | 650 | 655 | 660 | 665MB-AG



MORE POWER



Module power up to 665 W
Module efficiency up to 21.4 %



Up to 8.9 % lower LCOE
Up to 4.6 % lower system cost



Comprehensive LID / LeTID mitigation technology, up to 50% lower degradation



Compatible with mainstream trackers, cost effective product for utility power plant



Better shading tolerance

MORE RELIABLE



40 °C lower hot spot temperature, greatly reduce module failure rate



Minimizes micro-crack impacts



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa*



Enhanced Product Warranty on Materials and Workmanship*



Linear Power Performance Warranty*

1st year power degradation no more than 2%
Subsequent annual power degradation no more than 0.45%

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA
CEC listed (US California) / FSEC (US Florida)
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
Take-e-way



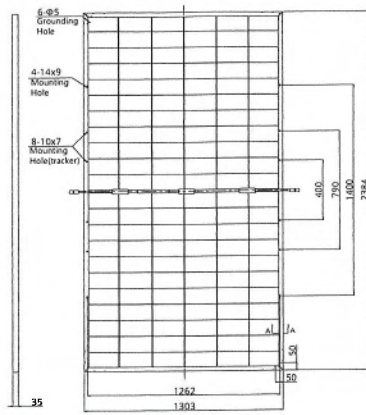
* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

CSI Solar Co., Ltd. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 20 years, it has successfully delivered over 63 GW of premium-quality solar modules across the world.

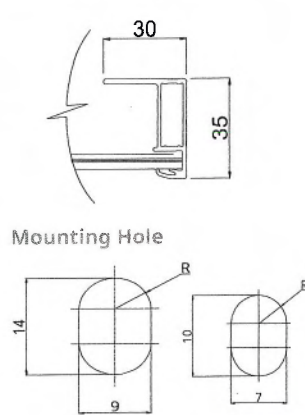
* For detailed information, please refer to the Installation Manual.

ENGINEERING DRAWING (mm)

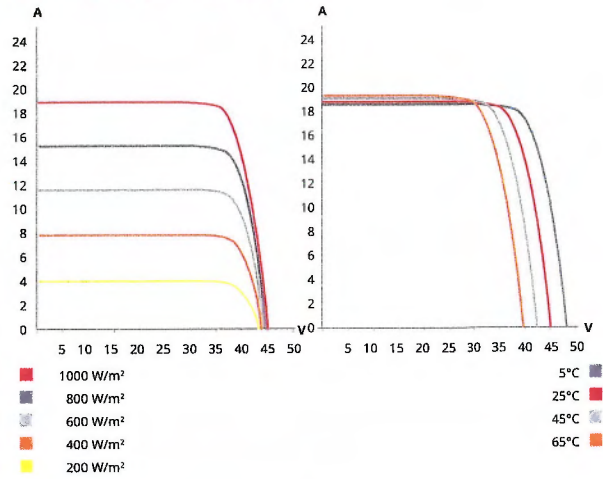
Rear View



Frame Cross Section A-A



CS7N-650MB-AG / I-V CURVES



ELECTRICAL DATA | STC*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Module Efficiency
CS7N-640MB-AG	640 W	37.5 V	17.07 A	44.6 V	18.31 A	20.6%
Bifacial Gain**	5%	672 W	37.5 V	17.92 A	19.23 A	21.6%
	10%	704 W	37.5 V	18.78 A	20.14 A	22.7%
	20%	768 W	37.5 V	20.48 A	21.97 A	24.7%
CS7N-645MB-AG	645 W	37.7 V	17.11 A	44.8 V	18.35 A	20.8%
Bifacial Gain**	5%	677 W	37.7 V	17.97 A	19.27 A	21.8%
	10%	710 W	37.7 V	18.84 A	20.19 A	22.9%
	20%	774 W	37.7 V	20.53 A	22.02 A	24.9%
CS7N-650MB-AG	650 W	37.9 V	17.16 A	45.0 V	18.39 A	20.9%
Bifacial Gain**	5%	683 W	37.9 V	18.03 A	19.31 A	22.0%
	10%	715 W	37.9 V	18.88 A	20.23 A	23.0%
	20%	780 W	37.9 V	20.59 A	22.07 A	25.1%
CS7N-655MB-AG	655 W	38.1 V	17.20 A	45.2 V	18.43 A	21.1%
Bifacial Gain**	5%	688 W	38.1 V	18.06 A	19.35 A	22.1%
	10%	721 W	38.1 V	18.93 A	20.27 A	23.2%
	20%	785 W	38.1 V	20.64 A	22.12 A	25.3%
CS7N-660MB-AG	660 W	38.3 V	17.24 A	45.4 V	18.47 A	21.2%
Bifacial Gain**	5%	693 W	38.3 V	18.10 A	19.39 A	22.3%
	10%	726 W	38.3 V	18.96 A	20.32 A	23.4%
	20%	792 W	38.3 V	20.69 A	22.16 A	25.5%
CS7N-665MB-AG	665 W	38.5 V	17.28 A	45.6 V	18.51 A	21.4%
Bifacial Gain**	5%	698 W	38.5 V	18.14 A	19.44 A	22.5%
	10%	732 W	38.5 V	19.02 A	20.36 A	23.6%
	20%	798 W	38.5 V	20.74 A	22.21 A	25.7%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

** Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA

Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1500 V (IEC/UL) or 1000 V (IEC/UL)
Module Fire Performance	TYPE 29 (UL 61730) or CLASS C (IEC61730)
Max. Series Fuse Rating	35 A
Application Classification	Class A
Power Tolerance	0 ~ + 10 W
Power Bifaciality*	70 %

* Power Bifaciality = $P_{max, rear} / P_{max, front}$, both $P_{max, rear}$ and $P_{max, front}$ are tested under STC, Bifaciality Tolerance: $\pm 5 \%$

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.
Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.

199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

ELECTRICAL DATA | NMOT*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)
CS7N-640MB-AG	480 W	35.2 V	13.64 A	42.2 V	14.77 A
CS7N-645MB-AG	484 W	35.3 V	13.72 A	42.3 V	14.80 A
CS7N-650MB-AG	487 W	35.5 V	13.74 A	42.5 V	14.83 A
CS7N-655MB-AG	491 W	35.7 V	13.76 A	42.7 V	14.86 A
CS7N-660MB-AG	495 W	35.9 V	13.79 A	42.9 V	14.89 A
CS7N-665MB-AG	499 W	36.1 V	13.83 A	43.1 V	14.93 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	132 [2 x (11 x 6)]
Dimensions	2384 x 1303 x 35 mm (93.9 x 51.3 x 1.38 in)
Weight	37.9 kg (83.6 lbs)
Front Glass	2.0 mm heat strengthened glass with anti-reflective coating
Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4.0 mm ² (IEC), 10 AWG (UL)
Cable Length (Including Connector)	460 mm (18.1 in) (+) / 340 mm (13.4 in) (-) or customized length*
Connector	T4 series or MC4-EVO2
Per Pallet	31 pieces
Per Container (40' HQ)	527 pieces or 465 pieces (only for US)

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.34 % / °C
Temperature Coefficient (Voc)	-0.26 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 ± 3°C

PARTNER SECTION





ALENCON

The BOSS: Alencon's Unique Bi-Directional DC-DC Converter for Battery Energy Storage Systems

BOSS Applications:

- DC Coupled Solar + Storage
- Battery Storage Augmentation
- Microgrids
- Battery Charge Balancing for Electric Vehicles and other devices



The Most Powerful and Flexible Bi-Directional DC-DC Converter on the Market Today

Alencon's Bi-Directional DC-DC Optimizer for Storage Systems, the BOSS, is a unique solution for your next battery energy storage project. The BOSS enables the granular control of charge and discharge of individual battery racks with a patent pending, galvanically isolated approach. The Alencon BOSS is the only DC-DC optimizer on the market capable of managing the charge and discharge of batteries on the rack level while offering galvanic isolation.

The Alencon BOSS is a cost-effective way to DC couple solar and storage or to augment existing battery energy storage systems. The BOSS can also be used for battery balancing applications required for electric vehicles and other devices. The BOSS can charge and discharge batteries across a wide voltage range on either side of the battery. BOSS units can be installed between individual battery racks or placed in parallel in any variety of configurations or form factors.

Features

- Full galvanic isolation between input and output
- Battery rack level charge and discharge
- Wide voltage mapping range between battery and DC bus or between batteries
- Numerous BOSS units can easily be installed and controlled in parallel
- Detect ground leaks with "Leak Locator" technology

Benefits

- Combine grounded PV arrays with floating batteries
- Maximize the utilization of each battery rack
- Match different voltages between batteries and solar or other DC sources and loads
- Easily augment energy storage systems with new battery racks with different charge characteristics and even different chemistries
- Improve the safety of battery energy storage systems

Advantages

- Flexibly design and deploy DC coupled Solar + Storage systems
- Get more energy from every battery rack
- Reduce overall BESS capital and operating expenses to improve storage project return on investment
- Improve battery energy storage system safety and prevent mishaps from occurring
- Increase system reliability and simplify O&M



Technical Specifications – BOSS V7 Series

Model	BOSS – 1000	BOSS – 1500/1000	BOSS – 1500
Standard Primary Side Voltage Specifications			
Maximum Voltage	1000 VDC	1500 VDC	1500 VDC
Operating Voltage Range ¹	200-950 VDC	300-1425 VDC	300-1425 VDC
Max Current ³ – 25 C°	100 A	74 A	74 A
Max Continuous Current ³ – 25 C°	88 A	74 A	74 A
Standard Secondary Side Voltage Specifications			
Maximum Voltage	1000 VDC	1000 VDC	1500 VDC
Operating Voltage Range ²	200-950 VDC	200-950 VDC	300-1425 VDC
Max Current ³ – 25 C°	100 A	100 A	74 A
Max Continuous Current ³ – 25 C°	88 A	88 A	74 A
Unit Power Specifications			
Maximum Power – 25 C°	88 KW	80 KW	80 KW
Maximum Power – 50 C°	65 KW	60 KW	60 KW
Efficiency			
Peak Efficiency	98.5%		
CEC Weighted Efficiency	98.0%		
Isolation			
Galvanic Isolation	Yes		
Standards & Compliance			
Certifications	UL1741, IEC 62109-1, CSA C22.2		
Environmental			
Storage Temperature	-40°C to 60°C		
Cooling	Forced Air		
Humidity	0-95%		
Environmental Rating	NEMA 3R		
Operating Ambient Temp.	-40°C to 50°C		
Form Factors			
Packaging	Rack (Horizontal) or Rail Mounted (Vertical)		
Size (H x W x D)	Rack Mount: 8U – 353 mm x 486 mm x 637 mm; H: 9U with FEED Rail Mount: 643 mm x 416 mm x 311 mm (D: 395 mm with FEED)		
Weight	Rack Mount: 57 KG/Rail Mount: 54 KG With FEED: Add 14 KG		
Aux Power	24 V available		
Communications	Modbus TCP via Alencon Communications Environment (ACE)		

¹ Can be configured to end user requirements using Alencon Systems' mass customization manufacturing approach.
² Can vary based on input and output voltages being mapped, see note above.

³ The max current represents the level of current to which the unit is UL listed, while the max continuous current represents the level of current that can consistently be achieved across the nominal voltage mapping range of a battery energy storage system. Max current varies based on input and output voltages. Units configured for low (<500 V) nominal voltages can have higher max current (up to 100A).



SOLECTRIA™ XGI 1500

PREMIUM 3-PHASE TRANSFORMERLESS UTILITY-SCALE INVERTERS

FEATURES

- Made in the USA with global components
- Buy American Act (BAA) compliant
- Four models:
 - 125kW/125kVA,
 - 125kW/150kVA,
 - 150kW/166kVA,
 - 166kW/166kVA
- 99.0% peak efficiency
- Flexible solution for distributed and centralized system architecture
- Advanced grid-support functionality Rule 21/UL1741SA
- Robust, dependable and built to last
- Lowest O&M and installation costs
- Access all inverters on site via WiFi from one location
- Remote diagnostics and firmware upgrades
- SunSpec Modbus Certified
- Tested compatible with the TESLA PowerPack Microgrid System
- app for system visibility

OPTIONS

- String combiners for distributed and centralized systems
- Web-based monitoring
- Extended warranty

MADE IN THE USA



With U.S. and Global Components



Yaskawa Solectria Solar's XGI 1500 utility-scale string inverters are designed for high reliability and built of the highest quality components that were selected, tested and proven to last beyond their warranty.

XGI 1500 inverters provide advanced grid-support functionality and meet the latest IEEE 1547 and UL 1741 standards for safety. They are the most powerful 1500 VDC string inverters in the PV market and have been engineered for both distributed and centralized system architecture.

Designed and engineered in Lawrence, MA, XGI inverters are assembled and tested at Yaskawa America's facilities in Buffalo Grove, IL. They are Made in the USA with global components and are compliant with the Buy American Act.

YASKAWA
SOLECTRIA SOLAR

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SOLECTRIA™ XGI 1500 TECHNICAL DATA

SPECIFICATIONS

SOLECTRIA XGI 1500 Model		XGI 1500-125/125	XGI 1500-125/150	XGI 1500-150/166	XGI 1500-166/166
DC Input	Absolute Maximum Input Voltage	1500 VDC	1500 VDC	1500 VDC	1500 VDC
	Maximum Power Input	860-1250 VDC	860-1250 VDC	860-1250 VDC	860-1250 VDC
	Voltage Range (MPPT)				
	Operating Voltage Range (MPPT)	860-1450 VDC	860-1450 VDC	860-1450 VDC	860-1450 VDC
	Number of MPP Trackers	1 MPPT	1 MPPT	1 MPPT	1 MPPT
	Maximum Operating Input Current	148.3 A	148.3 A	178.0 A	197.7 A
	Maximum Operating PV Power	128 kW	128 kW	153 kW	170 kW
	Maximum DC/AC Ratio Max Rated PV Power	2.6 332 kW	2.6 332 kW	2.2 332 kW	2.0 332 kW
AC Output	Max Rated PV Short-Circuit Current (ΣIsc x 1.25)	500 A	500 A	500 A	500 A
	Nominal Output Voltage	600 VAC, 3-Ph	600 VAC, 3-Ph	600 VAC, 3-Ph	600 VAC, 3-Ph
	AC Voltage Range	-12% to +10%	-12% to +10%	-12% to +10%	-12% to +10%
	Continuous Real Output Power	125 kW	125 kW	150 kW	166 kW
	Continuous Apparent Output Power	125 kVA	150 kVA	166 kVA	166 kVA
	Maximum Output Current	120 A	144 A	160 A	160 A
	Nominal Output Frequency	60 Hz	60 Hz	60 Hz	60 Hz
	Power Factor (Unity default)	+/- 0.80 Adjustable	+/- 0.80 Adjustable	+/- 0.80 Adjustable	+/- 0.80 Adjustable
Efficiency	Total Harmonic Distortion (THD) @ Rated Load	<3%	<3%	<3%	<3%
	Grid Connection Type	3-Ph + N/GND	3-Ph + N/GND	3-Ph + N/GND	3-Ph + N/GND
	Fault Current Contribution (1 cycle RMS)	144 A	173 A	192 A	192 A
	Peak Efficiency	98.9%	98.9%	99.0%	99.0%
	CEC Average Efficiency	98.5%	98.5%	98.5%	98.5%
	Tare Loss	<1 W	<1 W	<1 W	<1 W
	Ambient Temperature Range	-40°F to 140°F (-40C to 60C)	-40°F to 140°F (-40C to 60C)	-40°F to 140°F (-40C to 60C)	-40°F to 140°F (-40C to 60C)
	De-Rating Temperature	122°F (50C)	113°F (45C)		
Temperature	Storage Temperature Range	-40°F to 167°F (-40C to 75C)	-40°F to 167°F (-40C to 75C)	-40°F to 167°F (-40C to 75C)	-40°F to 167°F (-40C to 75C)
	Relative Humidity (non-condensing)	0 - 95%	0 - 95%	0 - 95%	0 - 95%
Communications	Operating Altitude	Full Power up to 9,840 ft (3.0 km); De-Rate to 70% of Full Power at 13,123 ft (4.0 km)			
	Advanced Graphical User Interface	WiFi			
	Communication Interface	Ethernet			
	Third-Party Monitoring Protocol	SunSpec Modbus TCP/IP			
	Web-Based Monitoring	Optional			
	Firmware Updates	Remote and Local			
	Safety Listings & Certifications	UL 1741, IEEE 1547, UL 1998			
	Advanced Grid Support Functionality	Rule 21, UL 1741SA			
Testing & Certifications	Testing Agency	ETL			
	FCC Compliance	FCC Part 15 (Subpart B, Class A)			
Warranty	Standard and Options	5 Years Standard; Option for 10 Years			
	Acoustic Noise Rating	73 dBA @ 1 m ; 67dBA @ 3 m			
Enclosure	DC Disconnect	Integrated 2-Pole 250 A DC Disconnect			
	Mounting Angle	Vertical only			
	Dimensions	Height: 29.5 in. (750 mm) Width: 39.4 in. (1000 mm) Depth: 15.1 in. (380 mm)			
	Weight	270 lbs (122 kg)			
	Enclosure Rating and Finish	Type 4X, Polyester Powder-Coated Aluminum			



IT'S PERSONAL

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Fixed-Tilt Ground Mount Solution | GM-2

When EPCs and project developers across the USA need dependable, low-maintenance ground mount racking, they turn to RBI Solar. As a single-source provider, we take responsibility for the Design, Engineering, Manufacturing, and Installation of PV mounting solutions. When you choose RBI Solar for your next ground mount, you're choosing peace of mind that your project is in the hands of the most trusted solar racking team in the industry.

Why choose RBI Solar?

- Professional Engineers licensed in all 50 states
- Quick response & efficient communication
- National installation capabilities
- Our in-house team members are an extension of your staff
- 85+ years manufacturing experience
- Complete turn-key process, reduction in your vendor coordination
- Company owned post driving equipment
- National project management capabilities with roaming site service personnel
- More time to focus on your business





GM-2 Solution Features

Foundation and racking design	Site wind speeds 170+ mph and ground snow loads 90+ psf
Signed and sealed drawings	Available in all 50 states
Proprietary on-site testing	Pull testing & corrosion testing - no geotechnical report required
Pre-assembled parts	Reduction in installation time
Variable slope	Accommodates slopes up to 30% (with topographic site map)
20-yr standard warranty	Proven rack reliability and bankability
G115 minimum galvanized coating	Exceeds ASTM and UL standards for 30% extended life
Driven posts	Cost-effective cee channel or I-beam post options available
Up to 24' long post driving	Ability to address challenging soils or elevate array structure
Module configurations	Portrait, landscape (all module types)
Raised purlins	Integrated bonding and grounding to UL 2703
Corrosion class	System available for all corrosion classes
Wire management and electrical	Integrated wire management solution and inverter mounting

Contact us at info@rbisolar.com or (513) 242-2051

DESIGN • ENGINEERING • MANUFACTURING • INSTALLATION

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