

AXIbipremium XXL HC MW 530 - 555 Wp

High performance bifacial solar module
144 halfcell, monocrystalline



German-American-Engineering

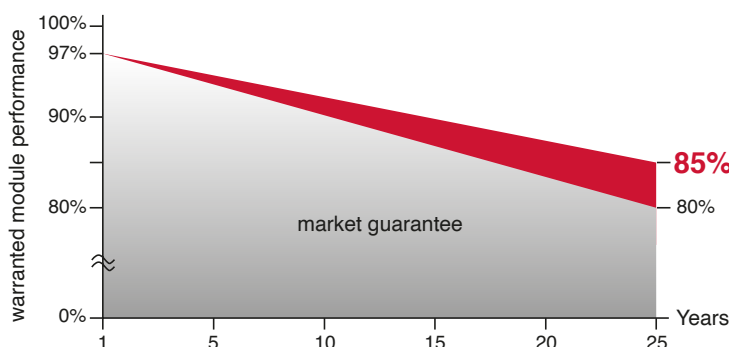
The advantages:

- 15** Years 15 years Manufacturer's warranty
- HC** High module performance through Half-Cut-technology and selected materials
- Wp** Guaranteed positive power tolerance from 0-5 Wp by individual measurement
- 100%** 100% visual electroluminescence inspection in production
- Frame** High stability due to innovative frame design
- IP 68** High quality junction box and connector systems
- 25** Years 25 years Performance guarantee



Fig. similar 144MHUSA230801A

Exclusive linear AXITEC high performance guarantee!



85% AXITEC Warranty Added Value: up to 5% more power after 25 years



Conforms to ETL STD No.1703
Certified to ULC/ORD Std. C1703

AXIbipremium XXL HC MW 530 - 555 Wp

Electrical data (at standard conditions (STC) irradiance 1000 watt/m². spectrum AM 1.5 at a cell temperature of 25°C)

Type	AC-530MBT/144V	AC-535MBT/144V	AC-540MBT/144V	AC-545MBT/144V	AC-550MBT/144V	AC-555MBT/144V
Nominal output	530 Wp	535 Wp	540 Wp	545 Wp	550 Wp	555 Wp
Nominal voltage U _{mpp}	41.31 V	41.47 V	41.64 V	41.80 V	41.96 V	42.11 V
Nominal current I _{mpp}	12.83 A	12.91 A	12.97 A	13.04 A	13.11 A	13.18 A
Short circuit current I _{sc}	13.72 A	13.79 A	13.86 A	13.93 A	14.00 A	14.07 A
Open circuit voltag U _{oc}	49.30 V	49.45 V	49.60 V	49.75 V	49.90 V	50.05 V
Module conversion efficiency	20.52 %	20.71 %	20.90 %	21.10 %	21.29 %	21.48 %

Bifacial output - Backside Power gain

10% Power output	583.00 Wp	588.50 Wp	594.00 Wp	599.50 Wp	605.00 Wp	610.50 Wp
Module Efficiency	22.57 %	22.78 %	22.99 %	23.21 %	23.41 %	23.62 %
15% Power output	609.50 Wp	615.25 Wp	621.00 Wp	626.75 Wp	632.50 Wp	638.25 Wp
Module Efficiency	23.59 %	23.82 %	24.04 %	24.26 %	24.47 %	24.70 %
20% Power output	636.00 Wp	642.00 Wp	648.00 Wp	654.00 Wp	660.00 Wp	666.00 Wp
Module Efficiency	24.62 %	24.85 %	25.08 %	25.32 %	25.54 %	25.77 %
25% Power output	662.50 Wp	668.75 Wp	675.00 Wp	681.25 Wp	687.50 Wp	693.75 Wp
Module Efficiency	25.65 %	25.89 %	26.13 %	26.37 %	26.60 %	26.84 %

Design

Frontside	0.13 inch (3.2 mm) hardened, low-reflection white glass
Cells	144 monocrystalline high efficiency cells
Backside	Composite film, cell caps white
Frame	1.38 inch (35 mm) silver aluminium frame

Mechanical data

L x W x H	89.68 x 44.64 x 1.38 inch (2278 x 1134 x 35 mm)
Weight	61.73 lbs (28 kg) with frame

Mechanical load

Design load (pressure/suction)	33.3 PSF / 33.3 PSF
Test load (pressure/suction)	50 PSF / 50 PSF

Power connection

Socket	Protection Class IP68
Wire	51.18 inch, AWG 11
Plug-in system	Plug/socket IP68, Stäubli EVO2

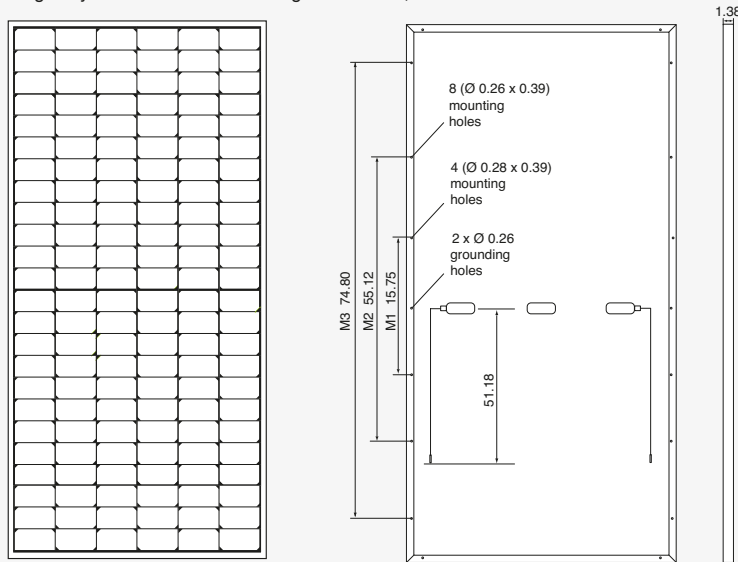


Fig. principle sketch

All dimensions in inch

Limit values

System voltage	1500 VDC (UL) 1000 VDC (IEC)
Module Fire Performance	TYPE 1 (UL 1703) or CLASS C (IEC 61730)
NOCT (nominal operating cell temperature)*	45°C +/-2K
Reverse current feed IR	30.0 A

Permissible operating temperature	-40°C to 85°C / -40F to 185F
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Bifaciality	70 % ± 10 %
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(No external voltages greater than V_o may be applied to the module)

* NOCT, irradiance 800 W/m²; AM 1.5; wind speed 1 m/s; Temperature 20°C

Temperature coefficients

Voltage U _{oc}	-0.29 %/K
Current I _{sc}	0.048 %/K
Output P _{mpp}	-0.35 %/K

Low-light performance (Example for AC-555MH/144V)

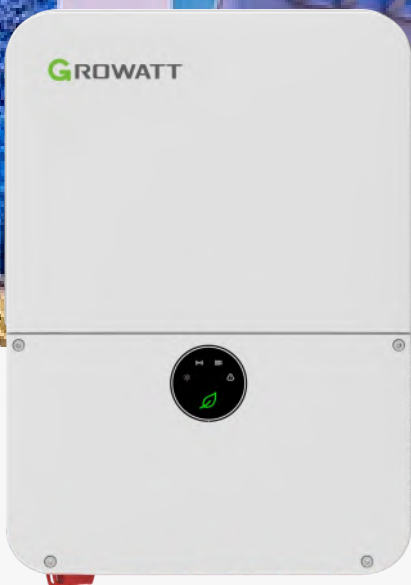
I-U characteristic curve	Current I _{pp}	Voltage U _{pp}
200 W/m ²	2.69 A	40.53 V
400 W/m ²	5.43 A	40.99 V
600 W/m ²	8.12 A	41.31 V
800 W/m ²	10.73 A	41.67 V
1000 W/m ²	13.18 A	42.11 V

Packaging

Module pieces per pallet	31
Module pieces per HC-container	620

MIN 8200~11400TL-XH-US

- Battery Ready for DC Coupled and AC Coupled systems
- With backup power and dark start operations
- Support RSD and AFCI
- Support multiple energy management modes: Self-consumption, Zero Export, TOU and Off-grid
- Comply with UL1741SA, CA Rule 21 & HECO



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Datasheet	MIN 8200TL-XH-US	MIN 9000TL-XH-US	MIN 10000TL-XH-US	MIN 11400TL-XH-US
Input Data (PV)				
Max. Recommended PV Power(STC)	16400W	18000W	20000W	22800W
DC/AC Ratio			2	
Max. DC System Voltage			600V	
Startup Voltage			50V	
Full load voltage range	170-500V	190-500V	210-500V	235-500V
Nominal Voltage			360V	
Operating Voltage Range			50~550V	
No. of MPP Trackers			4	
No. of PV Strings per MPP Trackers			2	
Max. Input Current per MPP Trackers			13.5A	
Max. Short-circuit current per MPP trackers			16.9A	
Input/Output Data (DC)				
Battery Voltage Range			360V~550V	
Nominal DC Voltage			400V	
I/O DC Current	24A/24A	27A/27A	30A/30A	30A/30A
I/O DC Power	8500W	9300W	10300W	10300W
Battery Technology			LFP / NMC	
Battery Capacity per Module			9.9kWh / 9.6kWh	
Scalability			Up to 4 / Up to 2 in parallel	
Compatible Batteries			Growatt ARO HV battery / LG Prime (Gen3) battery	
Output Data (AC)				
AC Nominal Power@240V AC	8200W	9000W	10000W	11400W
AC Nominal Power@208V AC	7280W	7900W	8735W	9880W
Max. AC Apparent Power	8200VA	9000VA	10000VA	11400VA
Nominal AC Voltage			208V/240V	
AC Voltage Range @208V AC @240V AC			183V~229V/211V~264V	
AC Grid Frequency			50/60Hz	
AC Grid Frequency Range			45~65Hz	
Max. Output Current	35A	38A	42A	48A
Power Factor(@Nominal Power)			>0.99	
Adjustable Power Factor			0.8 leading~0.8 lagging	
THDi			<3%	
AC Grid Connection Type			L1/L2/N/PE	
Output Data (Backup)				
AC Nominal Power	8200W	9000W	10000W	11400W*
Max. AC Power Output	9840VA	10800VA	12000VA	13680VA
Nominal AC Voltage			240V	
Max. Output Current	41A	45A	50A	57A
THD			5%	
AC Port-V2 inverter	2AC Ports, 1 for ON Grid, 1 for Backup(EPS) compatible with ATS-US for Partial Home Backup			
AC Port-V3 Inverter	1AC Port for 1 ON Grid compatible with SYN200-US for Whole Home Backup			
Efficiency				
Max. Efficiency	98.3%	98.3%	98.3%	98.5%
CEC Efficiency@208V AC	97.5%	97.5%	97.5%	97.5%
CEC Efficiency@240V AC	97.5%	97.5%	97.5%	98.0%
Protection Devices				
DC Reverse-polarity Protection			Yes	
DC Switch			Yes	
DC Surge Protection			Type II	
Insulation Resistance Monitoring			Yes	
AC Surge Protection			Type III	
AC short-circuit Protection			Yes	
Ground Fault Monitoring			Yes	
Grid Monitoring			Yes	
Anti-Islanding Protection			Yes	
Residual-current Monitoring Unit			Yes	
AFCL Protection			Yes	
General Data				
Dimensions (W / H / D)	15.8/25.2/7.4inch(400/638/187mm)			
Weight	45.2 lbs /20.5kg			
Operating Temperature Range	-13°F ~ +140°F (-25 °C ~ +60 °C)de-rating above 113°F			
Altitude	9843ft (3000m)			
Internal Consumption at Night	<1W (for PV inverter)/ <5W (for storage inverter)			
Cooling	Natural Convection			
Electronics Protection Degree	NEMA4X (IP65)			
Relative Humidity	0~95%			
Interfaces				
RS485	Yes			
WiFi/4G Communication	Optional			
Warranty: 10 Years	Yes(optional for extended 15 and 20 years warranty)			
Revenue Grade Meter	ANSI C12.20 (meet 0.5% accuracy)			

IEEE1547, CA Rule21, Rule14(HECO Compliant), FCC Part15 Class B, UL1741,UL1741SA,CSA C22.2, UL1699B, UL1741 CRD, UL9540

*11.4kW off-grid output requires both PV and battery power supply, and the battery itself has a rated off-grid power of 10kW.

Sinclair Designs & Engineering

*Integrated Project Development
& System Manufacturing*

SKY-RACK 2.0 Ground Mount System

INSTALLATION GUIDE



For more information contact: kyle@sinclair-designs.net

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PRODUCT SPEC SHEET

Fixed Tilt System - Module Clamp Kits or Direct to Frame Season Adjust - Manual



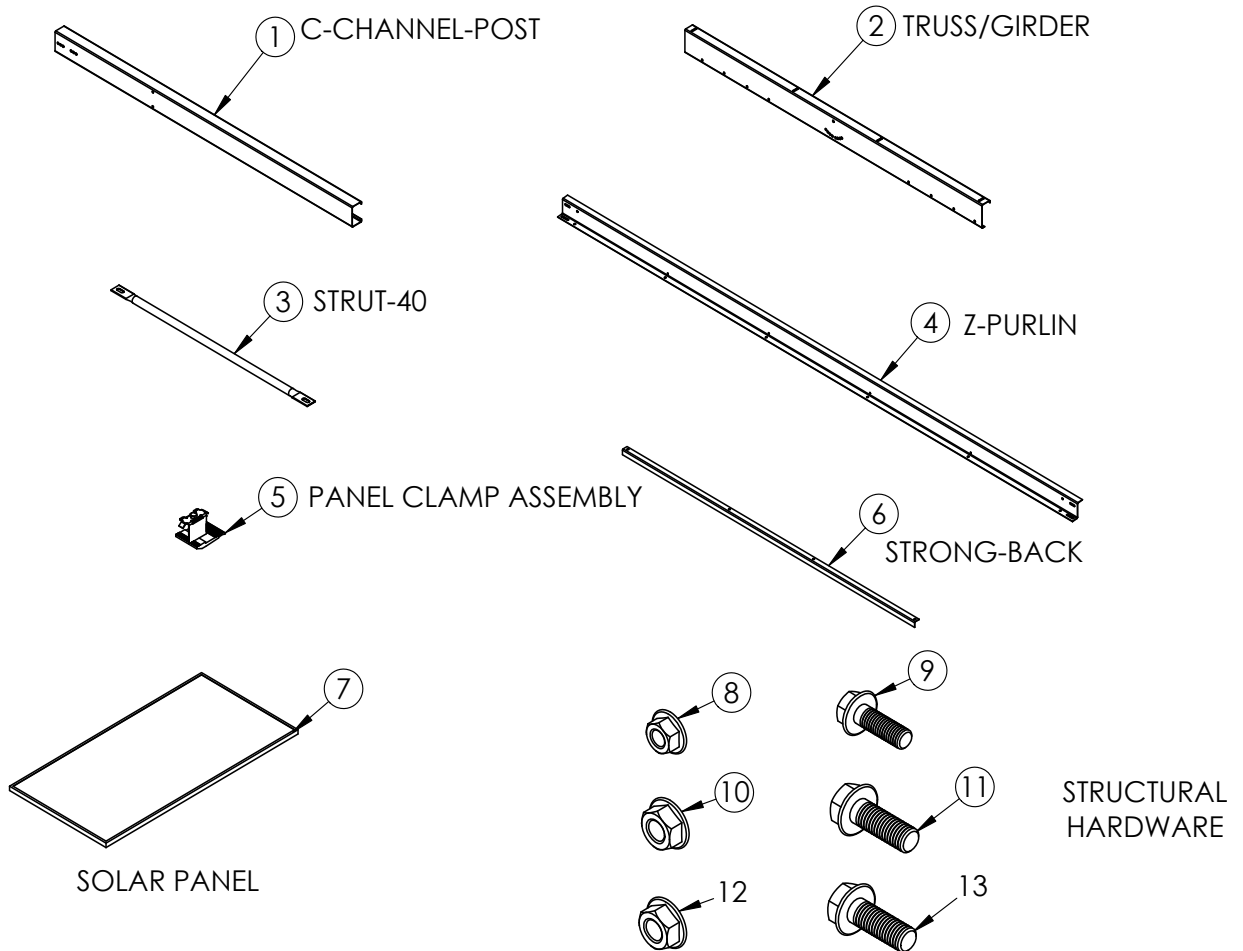
TILT ANGLE	5 - 40 DEGREES	TERRAIN	+/- 5 DEG E/W
MODULE ORIENTATION	2 HIGH PORTRAIT	WIRE MANAGEMENT	ZIP TIE HOLES AVAILABLE
WIND LOAD	125 MPH	WARRANTY	20 - 25 YEAR OPTIONS
SNOW LOAD	60 PSF	MATERIAL	GRADE 50 - 60 HSLA STEEL
GROUND CLEARANCE	24 - 36 IN	COATING	GALVANIZED
MODULE CLAMPS OR DIRECT TO FRAME	OPTIONAL	MANUFACTURING	USA - MICHIGAN MADE

***Note: Higher wind load/snow load options are available.
Formal site specific structural calculations available upon request.***

4X MAIN COMPONENTS	ADDITIONAL COMPONENTS	MINIMAL HARDWARE
1. C-CHANNEL-POST	HIGH WIND/SNOW	2 X 5/8-11 X 1 3/4 BOLTS
2. STRUT-40	STRONG-BACKS	2 X 5/8-11 SERRATED NUTS
3. TRUSS/GIRDER	CANTILEVERS	14 X 1/2-13 X 1 3/4 BOLTS
4. Z-PURLIN (2-5 PANEL LENGTHS)	STRUT-50	14 X 1/2-13 SERRATED NUTS



CLAMP DESIGN: Included Parts List

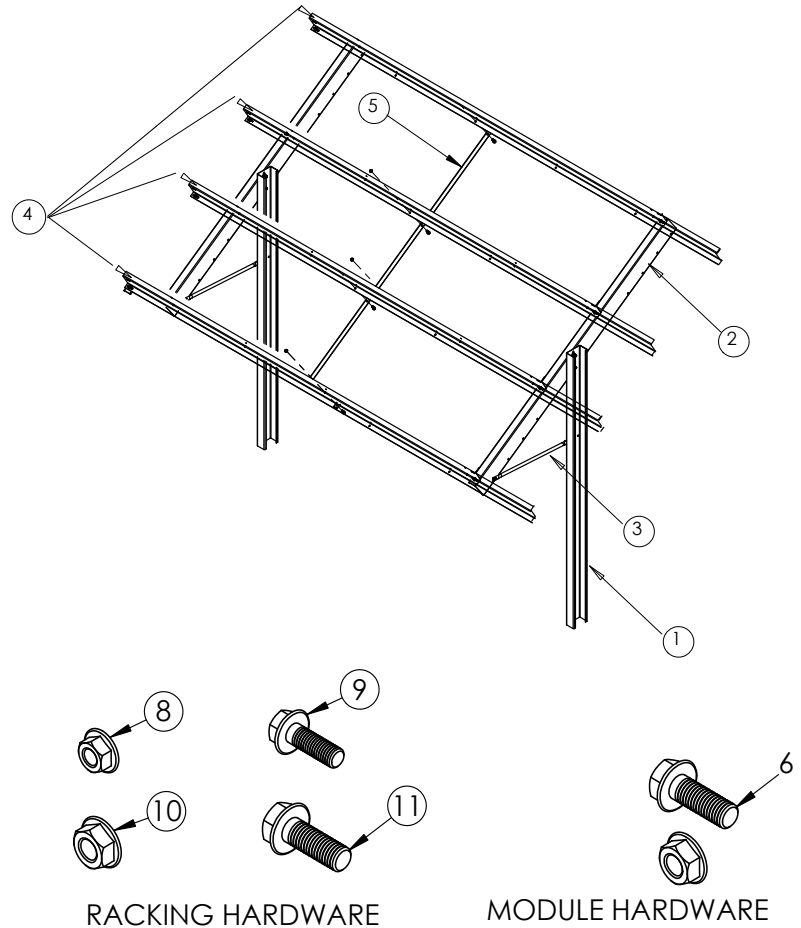
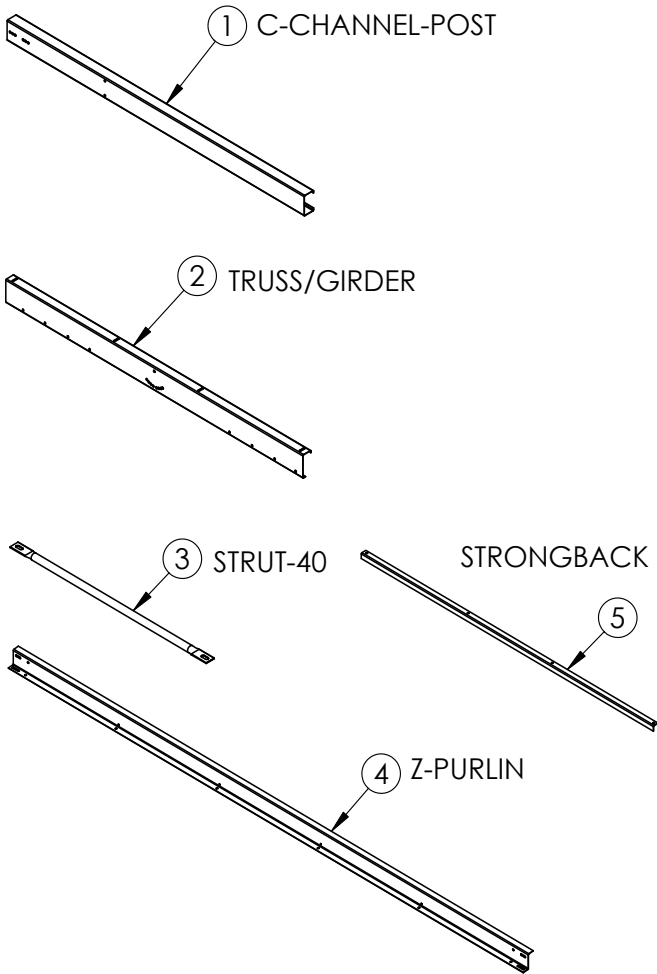


ITEM NO.		QTY
1	C-CHANNEL-POST	2
2	TRUSS/GIRDER	2
3	STRUT-40	21
4	Z-PURLIN	4
5	PANEL CLAMP ASSEMBLY	20
6	STRONG-BACK	1
7	PV MODULE	10
8	1/2-13 FLANGE HEAD NUT	14
9	1/2-13 X 1.5 FLANGE HEAD BOLT	14
10	5/8-11 FLANGE HEAD NUT	4
11	5/8-11 X 1.75 FLANGE HEAD BOLT	4

ITEM NO.	Recommended Installation Tools:	QTY
	1/4 or 1/2 1500 in/lb MIN Impact Driver 1/2 - 3/4 - 15/16 in Impact Sockets (Always take extra batteries)	
5	TORQUE SPEC = 12 ft/lbs	20
9	TORQUE SPEC = 57 ft/lbs	14
11	TORQUE SPEC = 112 ft/lbs	2

Note: Z-PURLIN 49.5 East & West Cantilevers are available - See Design Requirements & Bill of Materials

DIRECT TO FRAME DESIGN: Included Parts List



RACKING HARDWARE

MODULE HARDWARE

ITEM NO.	DESCRIPTION	QTY
1	C-CHANNEL-POST	2
2	TRUSS/GIRDER	2
3	SUPPORT STRUT	2
4	Z-PURLIN	4
5	STRONG-BACK	1
6	1/4-20 SERRATED FLANGED BOLT/NUT	40
7	PV MODULE	10
8	1/2-13 FLANGE HEAD NUT	14
9	1/2-13 X 1.5 FLANGE HEAD BOLT	14
10	5/8-11 FLANGE HEAD NUT	4
11	5/8-11 X 1.75 FLANGE HEAD BOLT	4

TORQUE	Recommended Installation Tools:	
	1/4 or 1/2 1500 in/lb MIN Impact Driver 1/2 - 3/4 - 15/16 in Impact Sockets (Always take extra batteries)	
6	TORQUE SPEC = 6 ft/lbs	40
9	TORQUE SPEC = 57 ft/lbs	14
11	TORQUE SPEC = 112 ft/lbs	4

Note: Z-PURLIN 49.5 East & West Cantilevers are available - See Design Requirements & Bill of Materials