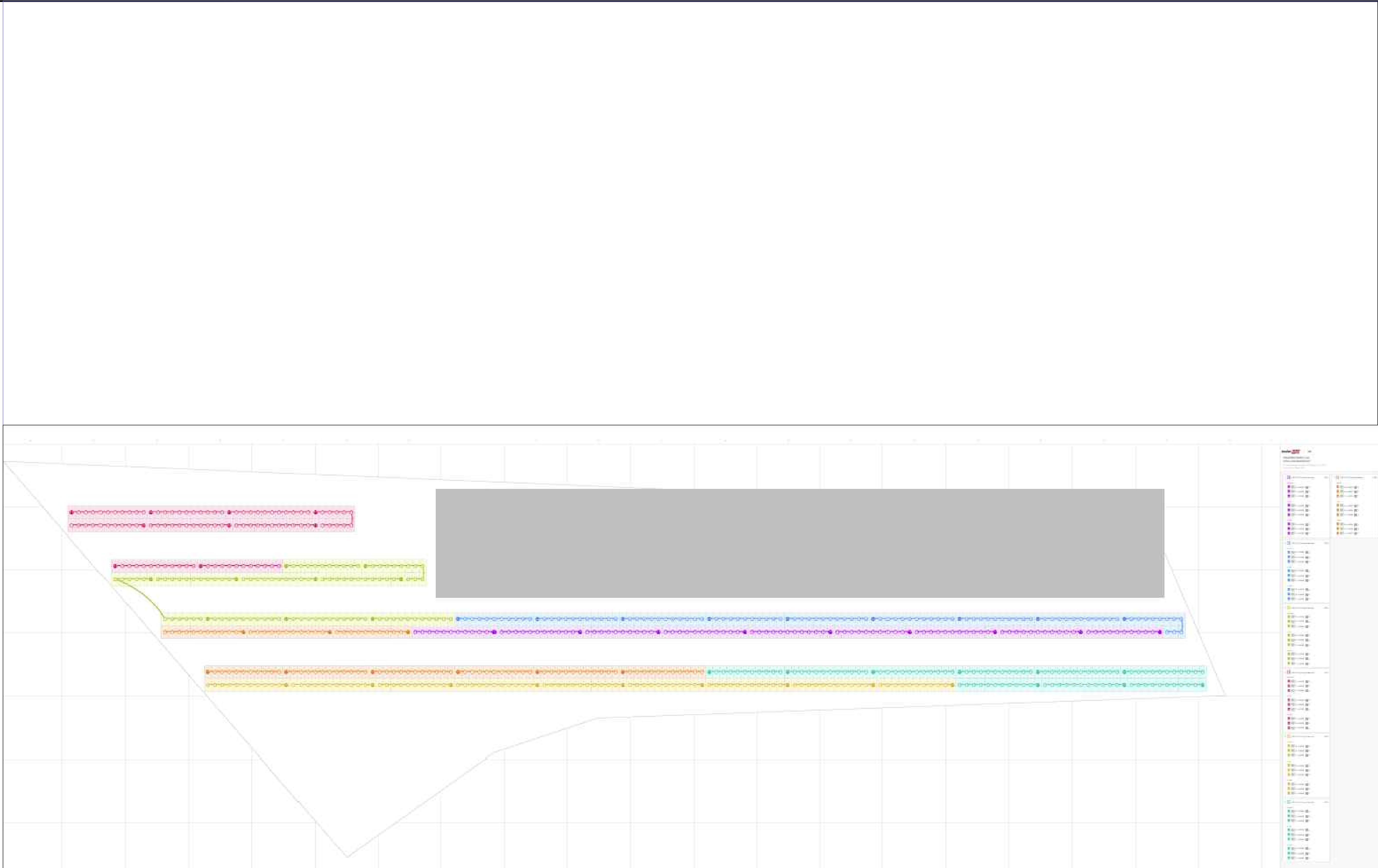
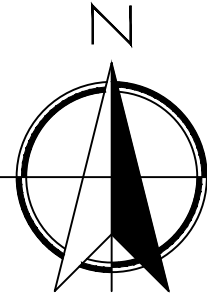
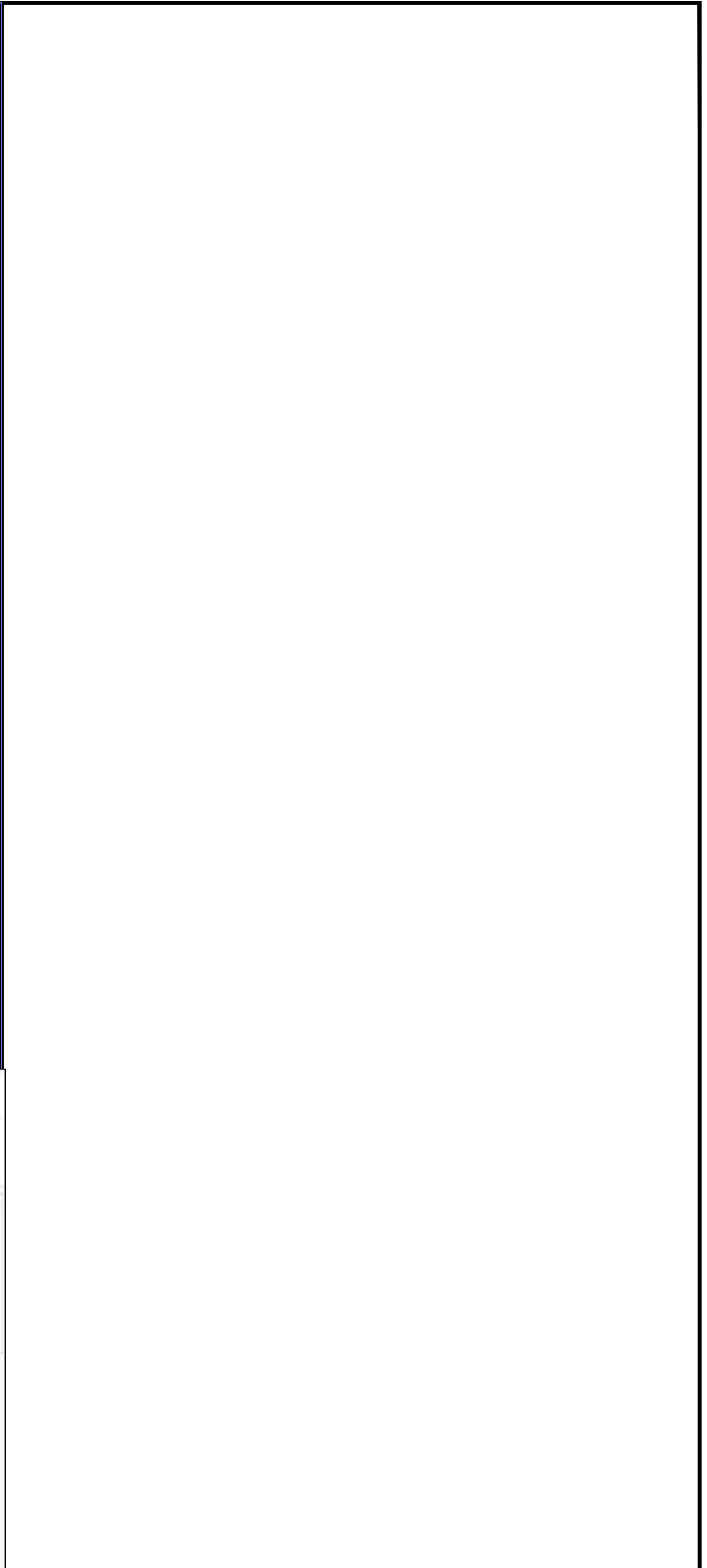


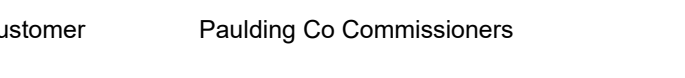




30% Drawings Not for Construction



PROJECT INFORMATION			
Project Latitude	37°47'42"	Min. Ambient Temperature	0°C
Project Longitude	-122°23'38"	Max. Ambient Temperature	40°C
Utility Name	AEP Ohio	Meter Number	446 070 448
Wind Exposure Category	A	Wind Speed	0
Risk Category	I	North Direction	----
Interconnection Voltage	----	AHJ	----
ARRAY INFORMATION			
ARRAY 1			
Module Name	Axitec AC-580TGB/144TS		
Inverter	SE50KUS		
Tilt Angle 25.0°	No. of Modules 734	DC String Length 11	No. of Strings 63
ARRAY 2			
Module Name	----		
Inverter	----		
Tilt Angle ----	No. of Modules ----	DC String Length ----	No. of Strings ----
ARRAY 3			
Module Name	----		
Inverter	----		
Tilt Angle ----	No. of Modules ----	DC String Length ----	No. of Strings ----

Rev	Description	Date	Drawn By	Engineering Stamp	Company Contact Info		Customer	Paulding Co Commissioners	Sheet Name				
----	----	----	----		Company Name: TMI Energy Solutions Company Address: 423 W. Wyoming Avenue Cincinnati, OH 45215 (513) 821-9900 Company Phone: (513) 821-9900 Company FAX: (513) 821-9920 Company E-mail: rfindley@tmielectric.com		Project	County Jail	STRING WIRE LAYOUT				
----	----	----	----				Location	500 Perry Street Paulding Ohio 45879-1418	Designed By	Rfindley	Sheet Title		
----	----	----	----				Project number	----	Sheets	----	Issue		Sheet Number
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AXITEC

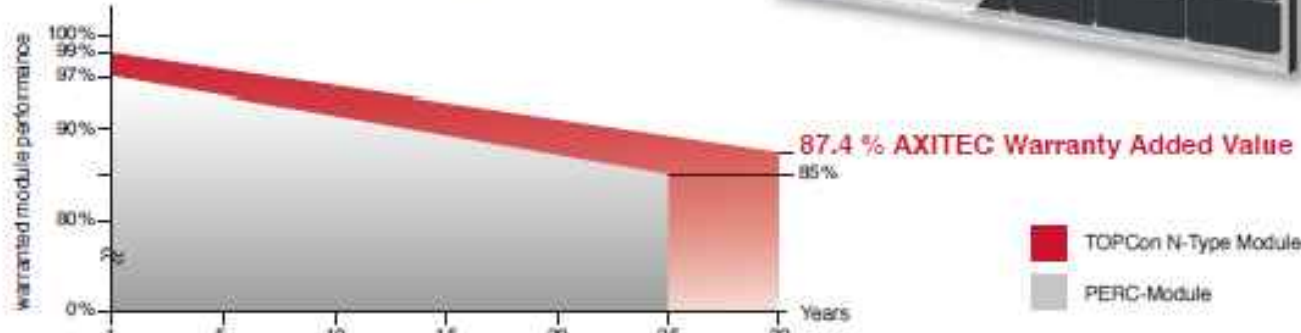
AXIbiperfect GXXL TS
560 - 580 Wp

High performance bifacial solar module
144 halfcell, glass/glass, N-Type TOPCon

The advantages:

- 30 years Manufacturer's warranty
- 30 years Performance guarantee
- Up to 30 % more power output by Bifacial-Technology
- More performance through innovative N-Type TOPCon-Technology
- PID reduced through glass/glass-Technology
- Increased safety through improved fire protection
- Guaranteed positive power tolerance from 0-5 Wp by individual measurement

Exclusive linear AXITEC high performance guarantee!



AXITEC Energy GmbH & Co. KG, Otto-Lilienthal-Str. 5, 71034 Böblingen, Germany, energy@axitec-solar.com, www.axitec-solar.com

AXITEC

AXIbiperfect GXXL TS 560 - 600 Wp

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

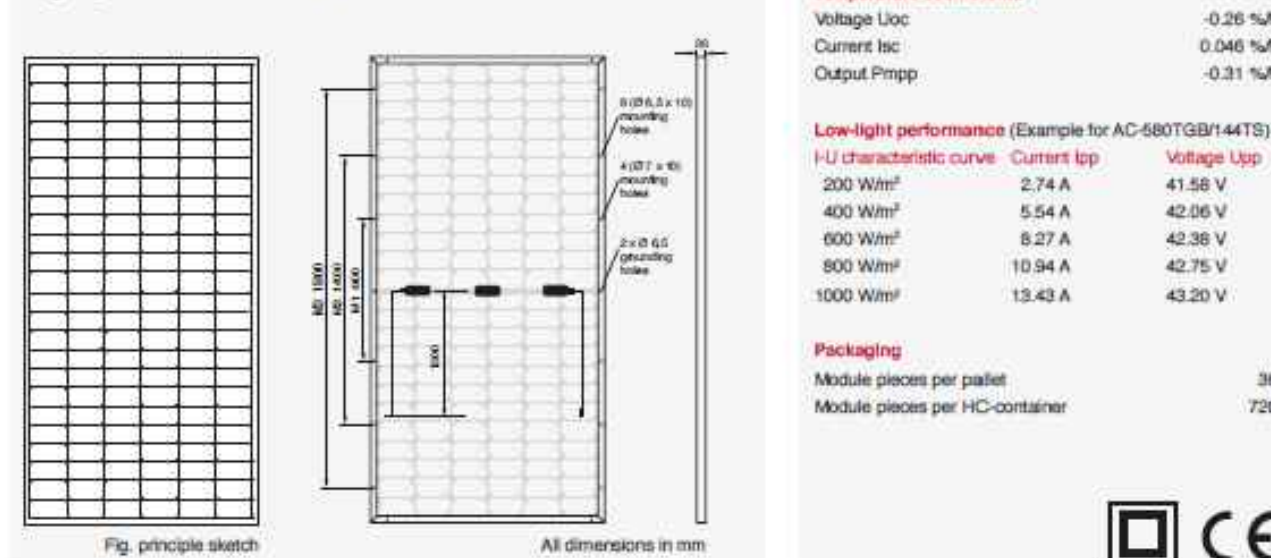
Type	AC-560TGB/144TS	AC-566TGB/144TS	AC-570TGB/144TS	AC-575TGB/144TS	AC-580TGB/144TS
Nominal output	560 Wp	565 Wp	570 Wp	575 Wp	580 Wp
Nominal voltage Unpp	42.40 V	42.60 V	42.80 V	43.00 V	43.20 V
Nominal current Inpp	13.21 A	13.27 A	13.32 A	13.38 A	13.43 A
Short circuit current Isc	13.97 A	14.03 A	14.08 A	14.14 A	14.19 A
Open circuit voltage Uoc	50.60 V	50.80 V	51.00 V	51.20 V	51.40 V
Module conversion efficiency	21.68 %	21.87 %	22.07 %	22.28 %	22.45 %
Bifacial output - Backside Power gain					
10% Power output	616.00 Wp	621.50 Wp	627.00 Wp	632.50 Wp	638.00 Wp
Module Efficiency	23.85 %	24.06 %	24.27 %	24.48 %	24.70 %
20% Power output	672.00 Wp	678.00 Wp	684.00 Wp	690.00 Wp	696.00 Wp
Module Efficiency	26.01 %	26.26 %	26.48 %	26.71 %	26.94 %
30% Power output	728.00 Wp	734.50 Wp	741.00 Wp	747.50 Wp	754.00 Wp
Module Efficiency	28.18 %	28.43 %	28.68 %	28.94 %	29.19 %

Design	Frontside: 2.0 mm hardened, low-reflection white glass Backside: 2.0 mm hardened glass, cell spaces transparent Cells: 144 N-Type TOPCon bifacial high efficiency cells Frame: 30 mm silver aluminum frame	Limit values	System voltage: 1500 VDC NOCT (nominal operating cell temperature)*: 45°C +/- 5K Reverse current feed IRI: 25.0 A
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Mechanical data	L x W x H: 2278 x 1134 x 30 mm Weight: 31.2 kg with frame	Permissible operating temperature: -40°C to 85°C / -40°F to 185°F Brakistly: 80 % ± 5 % Fire class / Protection class: C (UL790) / II
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Mechanical load	Design load (pressure/suction): 3600 Pa / 1600 Pa * Test load (pressure/suction): 5400 Pa / 2400 Pa * * depending on the type of installation according to the installation instructions	(No external voltages greater than Uoc may be applied to the module) * NOCT: irradiance 800 W/m², AM 1.5, wind speed 1 m/s, Temperature 20°C
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Power connection	Socket: Protection Class IP68, 3 bypass diodes Wire: approx. 1.9 m, 4 mm² Plug-in system: IP68, JAM609	Temperature coefficients	Voltage Uoc: -0.26 %/K Current Isc: 0.046 %/K Output Pmpp: -0.31 %/K
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Three Phase Inverter with Synergy Technology
For the 208V Grid for North America
SE50KUS

MODEL NUMBER	SE50K-USx2xxxx	UNITS
APPLICABLE TO INVERTERS WITH PART NUMBER	SE50KUS	
OUTPUT		
Rated AC Active Output Power	50000	W
Maximum AC Apparent Output Power	50000	VA
AC Output Line Connections	3W + PE, 4W + PE	
Supported Grids	WYE, TN-C, TN-S, TN-C-S, TT, IT, Delta, IT	
AC Output Voltage Minimum-Nominal-Maximum ⁽¹⁾ (L-N)	105 ~ 120 ~ 132 V	Vac
AC Output Voltage Minimum-Nominal-Maximum ⁽¹⁾ (L-L)	183 ~ 208 ~ 229 V	Vac
AC Frequency Min-Nom-Max ⁽¹⁾	59.5 ~ 60 ~ 60.5	Hz
Maximum Continuous Output Current (per Phase, P-Fact)	139.5	Aac
GFDI Threshold	1	A
Utility Monitoring, Islanding Protection, Configurable Power Factor	Yes	
Country Configurable Thresholds	± 3	%
Total Harmonic Distortion	± 3	%
Power Factor Range	± 0.85 to 1	
INPUT		
Maximum DC Power (Module STC) Inverter / Synergy Unit	87500 / 29165	W
Transformer-less, Ungrounded	Yes	
Maximum Input Voltage DC+ to DC-	600	Vdc
Operating Voltage Range	370 ~ 600	Vdc
Maximum Input Current	3 x 46.5	Adc
Reverse-Polarity Protection	Yes	
Ground-Fault Isolation Detection	167Vdc sensitivity per Synergy Unit ⁽²⁾	
CEC Weighted Efficiency	97	%
Nighttime Power Consumption	< 12	W
ADDITIONAL FEATURES		
Supported Communication Interfaces ⁽³⁾	2 x RS485, Ethernet, Wi-Fi (optional), Cellular (optional)	
Smart Energy Management	Export Limitation	
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection	
Arc Fault Protection	Built-in, User Configurable (According to UL1699B)	
Photovoltaic Rapid Shutdown System	NEC 2014 ~ 2023, built-in	
PID Rectifier	Nighttime, built-in	
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated	
AC DC Surge Protection	Type II, field replaceable, integrated	
DC Fuses (Single Pole)	25A, integrated	
Pre-Commissioning	Built-in ⁽⁴⁾	
VAR at Night ⁽⁵⁾	Yes	
DC SAFETY SWITCH		
DC Disconnect	Built-in	
STANDARD COMPLIANCE		
Safety	UL1699B, UL1741, UL1741 SA, UL1741 SB, UL1998, CSA C22.2-107.1, Canadian AFCI according to T.I.L. M-07	
Grid Connection Standards	IEEE 1547-2018, Rule 21, Rule 14 (H-I)	
Emissions	RCC part 15 class A	

GENERAL NOTES

SHEET SUMMARY

PROJECT INFORMATION

Project Latitude	37°47'42"	Min. Ambient Temperature	0°C
Project Longitude	-122°23'38"	Max. Ambient Temperature	40°C
Utility Name	AEP Ohio	Meter Number	446 070 448
Wind Exposure Category	A	Wind Speed	0
Risk Category	I	North Direction	----
Interconnection Voltage	----	AHJ	----

ARRAY INFORMATION

ARRAY 1			
Module Name	Axitec AC-580TGB/144TS		
Inverter	SE50KUS		
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Residential Power Optimizer
For North America

S440 / S500B / S650B

POWER OPTIMIZER



PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Faster installations with simplified wire management and easy assembly using a single bolt
- Detects abnormal PV connector behavior, preventing potential safety issues
- Flexible system design for maximum space utilization
- Module-level voltage shutdown for installer and firefighter safety
- Compatible with bifacial PV modules
- Superior efficiency (99.5%)
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading

solaredge.com

solar**edge**

Residential Power Optimizer
For North America
S440 / S500B / S650B

	S440	S500B	S650B	
INPUT				
Rated Input DC Power ⁽¹⁾	440W ⁽¹⁾	500W ⁽¹⁾	650	W
Absolute Maximum Input Voltage (Voc)	60	125	85	Vdc
MPP Operating Range	8 ~ 60	12.5 ~ 105	12.5 ~ 85	Vdc
Maximum Input Current (Maximum Isc of Connected PV Module) ⁽²⁾	14.5	15		Adc
Maximum Input Short Circuit Current ⁽³⁾		18.75		Adc
Maximum Efficiency		99.5		%
Weighted Efficiency		99.6		%
Overvoltage Category		II		
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)				
Maximum Output Current		15		Adc
Maximum Output Voltage	60	80		Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR INVERTER OFF)				
Safety Output Voltage per Power Optimizer		1 ± 0.1		Vdc
STANDARD COMPLIANCE				
Photovoltaic Rapid Shutdown System		CSA C22.2-107.1, NEC 2014 ~ 2023		
DVC		RCC Part 15 Class B, IEC 60900-6-2, IEC 60900-6-3		
Safety		CSA C22.2-107.1, IEC 60709-1 (Class II Safety), UL 1741		
Material		UL 94 V-0, UV Resistant		
RoHS		Yes		
Fire Safety		VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS				
Maximum Allowed System Voltage		1000		Vdc
Dimensions (W x L x H)	129 x 155 x 30 / 5.07" x 6.10" x 1.18"	129 x 165 x 45 / 5.07" x 6.49" x 1.77"		mm / in
Weight	720 / 1.6	790 / 1.74		g / lb
Input Connector		MC4		
Input Wire Length		0.1 / 0.32		m / ft
Output Connector		MC4		
Output Wire Length		(+12.5, +10.15 / +17.54, +10.32		m / ft
Operating Temperature Range ⁽⁴⁾		-40 to +85		°C
Protection Rating		IP68 / NEMA4P		
Relative Humidity		0 ~ 100		%

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to ±5% power tolerance are allowed.
(2) For S440 with part number S440-10048BMP, the Rated Input DC Power is 650W, and the Maximum Input Current is 15A.
(3) For installations after Aug. 1st, 2024, the Rated Input DC Power for S500B is 650W.
(4) The Maximum Input Short Circuit Current is adjusted for worst case conditions of ambient temperature, irradiance, bifacial gain, and so on in accordance with NEC and CSA.
(5) Power derating is applied for ambient temperatures above +85°C / +185°F for S440, and for ambient temperatures above +75°C / +167°F for S500B and S650B. Refer to the [Power Derating Temperature Derating](#) technical note for more details.

PV System Design (Using a SolarEdge Inverter ⁽¹⁾)	SolarEdge Home Wave/Hub Single Phase	Three Phase for 208V Grid	Three Phase for 277/480V Grid	
Minimum String Length (Power Optimizers)	S440: 6 S500B, S650B: 6	10 8	16 14	
Maximum String Length (Power Optimizers)		25	50 ⁽²⁾	
Maximum Usable Power Delivered per String	5700	6000	10,750	W
Maximum Allowed Connected Power per String ⁽³⁾	Inverters with Rated AC Power ≤ 5700W Inverters with Rated AC Power of 6000W Inverters with Rated AC Power ≥ 7600W	For the inverter's maximum input DC power ⁽⁴⁾ 6000, only when connected to at least two strings.	One string: 7000 Two strings or more: 7800	W
Parallel Strings of Different Lengths or Orientations		Yes		

Rev	Description	Date	Drawn By	Engineering Stamp	Company Contact Info		Customer	Paulding Co Commissioners	Sheet Name				
----	----	----	----		Company Name: TMI Energy Solutions		Project	County Jail	MANUFACTURER CUTSHEETS				
----	----	----	----		Company Address: 423 W. Wyoming Avenue Cincinnati, OH 45215			----					
----	----	----	----		Company Phone: (513) 821-9900		Location	500 Perry Street	Designed By	Rfindley	Sheet Title		
----	----	----	----		Company FAX: (513) 821-9920			Paulding Ohio			PV E5.1		
					Company E-mail: rfindley@tmieletric.com		45879-1418	Project number	----	Sheets	----	Issue	Sheet Number