



/ SHP 125-US-21 / SHP 150-US-21 / SHP 165-US-21 / SHP 172-US-21



# Sunny Highpower PEAK3-US

125 / 150 / 165 / 172

A superior distributed generation  
solution for large-scale power plants

**25** YEAR  
DESIGN LIFE



SMA  
Smart Connected



## Cost effective

- Modular architecture reduces BOS and maximizes system uptime
- Compact design and high power density maximize transportation and logistical efficiency

## Maximum flexibility

- Scalable 1,500 VDC building block with best-in-class performance
- Flexible architecture creates scalability while maximizing land usage

## Simple install, commissioning

- Ergonomic handling and simple connections enable quick installation
- Centralized commissioning and control with SMA Data Manager

## Highly innovative

- SMA Smart Connected reduces O&M costs and simplifies field-service
- Powered by award winning ennexOS cross sector energy management platform

**The Sunny Highpower PEAK3 1,500 VDC inverter offers high power density in a modular architecture that achieves a cost-optimized solution for large-scale PV integrators.**

With fast, simple installation and commissioning, the PEAK3 is accelerating the path to energization. SMA has also brought its field-proven Smart Connected technology to the PEAK3, which simplifies O&M and contributes to lower lifetime service costs. The PEAK3 power plant solution is powered by the ennexOS cross sector energy management platform, 2018 winner of the Intersolar smarter E AWARD.

SHP-US\$-en-23 Changes to products and services, including those resulting from country-specific requirements, as well as deviations from technical data are subject to change at any time without notice. SMA assumes no liability for typographical or other errors. Please visit [www.SMA-Solar.com](http://www.SMA-Solar.com) for the latest information.

**SILFAB**  
UTILITY **NTC**

**SILFAB**  
SOLAR®

SIL-620/630/640 XL  
**BIFACIAL**



••• **SILFAB UTILITY PANEL WITH  
N-TYPE CELL TECHNOLOGY**

**Manufactured exclusively in the USA.**

- Improved Shade Tolerance
- Improved Low-Light Performance
- Increased Performance in High Temperatures
- Efficient Bifacial Energy Yield
- Enhanced Durability
- Reduced Degradation Rate
- 25-Year Product Warranty/  
30-Year Performance Warranty



**SILFABSOLAR.COM**



ELECTRICAL SPECIFICATIONS			620			630			640		
Test Conditions			STC	BSTC	NOCT	STC	BSTC	NOCT	STC	BSTC	NOCT
Module Power (Pmax)	Wp		620	686.96	463.48	630	698.04	470.96	640	709.12	478.44
Maximum power voltage (Vpmax)	V		48.16	48.16	44.95	48.47	48.47	45.24	48.78	48.78	45.53
Maximum power current (Ipmax)	A		12.87	14.26	10.31	13.00	14.40	10.41	13.12	14.54	10.51
Open circuit voltage (Voc)	V		57.21	57.50	53.85	57.49	57.78	54.11	57.76	58.05	54.37
Short circuit current (Isc)	A		13.55	15.01	10.91	13.66	15.13	11.00	13.76	15.25	11.09
Module efficiency	%		22.20%			22.56%			22.92%		
Maximum system voltage (VDC)	V		1500								
Series fuse rating	A		30								
Power Tolerance	Wp		0 to +10								
Bifaciality Factor	%		80±5								

Performance conditions: Measurement tolerance ≤ 3% • Standard Test Conditions (STC): 1000 W/m<sup>2</sup>, AM 1.5, Temperature 25 °C • Nominal Operating Cell Temperature (NOCT): 800 W/m<sup>2</sup>, AM 1.5 • Bifacial Standard Test Conditions (BSTC): 1000 W/m<sup>2</sup> +  $\phi$  × 135 W/m<sup>2</sup>,  $\phi$  = 80 %, AM 1.5 • Electrical characteristics may vary by ±5%.

MECHANICAL PROPERTIES / COMPONENTS	METRIC	IMPERIAL
Module weight	29.5 kg ±0.25 kg	65.8 lbs ±0.5 lbs
Dimensions (H x L x D)	2465 mm x 1133 mm x 35 mm	97.0 in x 44.6 in x 1.4 in
Maximum surface load (wind/snow)*	2400 Pa rear load / 5400 Pa front load	50.1 lb/ft <sup>2</sup> rear load / 112.8 lb/ft <sup>2</sup> front load
Hail impact resistance	Ø 25 mm at 83 km/h	Ø 1 in at 51.6 mph
Cells	156 Half cells - N-Type Silicon solar cell 91 x 182 mm	156 Half cells - N-Type Silicon solar cell 3.58 x 7.16 in
Glass	3.2 mm high transmittance, tempered, antireflective coating	0.126 in high transmittance, tempered, antireflective coating
Cables and connectors (refer to installation manual)	(+)1350 mm, (-)350mm, Ø 5.7 mm, EVO2 from Staubli	(+)53.1in, (-)13.8in, Ø 0.22 in (12AWG), EVO2 from Staubli
Backsheet	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, transparent PV backsheet	
Frame	Anodized Aluminum (Silver)	
Junction Box	IP68 rated, 3 diodes	

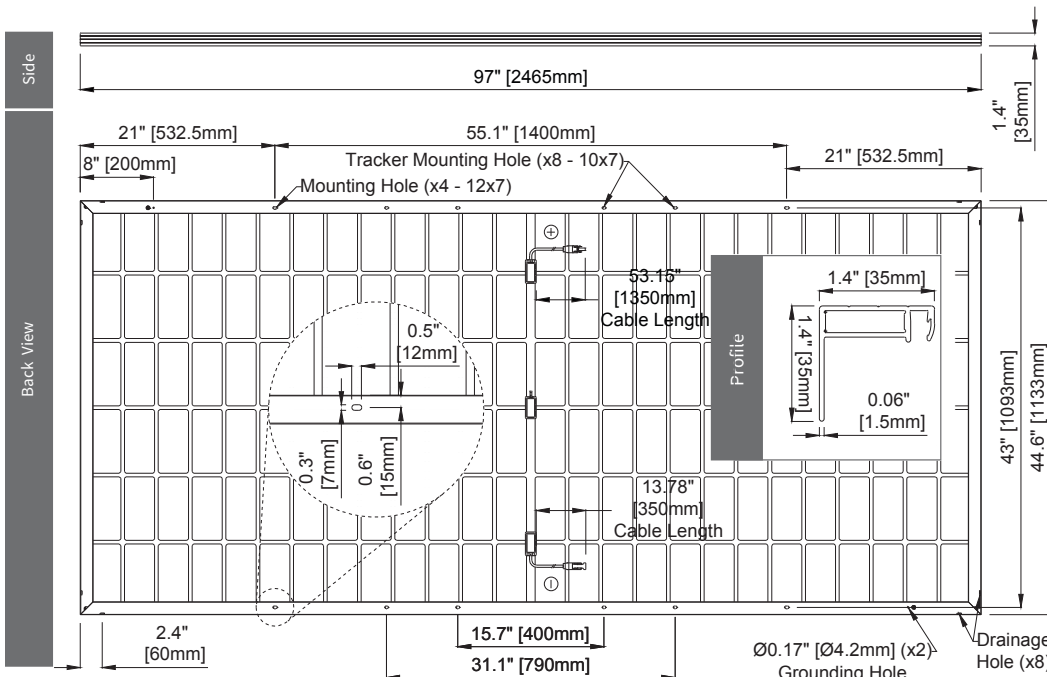
TEMPERATURE RATINGS		WARRANTIES	
Temperature Coefficient Isc	0.04 %/°C	Module product workmanship warranty	25 years**
Temperature Coefficient Voc	-0.24 %/°C	Linear power performance guarantee	30 years
Temperature Coefficient Pmax	-0.29 %/°C		≥ 98% end 1st yr
NOCT (± 2°C)	45 °C		≥ 94.7% end 12th yr
Operating temperature	-40/+85 °C		≥ 90.8% end 25th yr ≥ 89.3% end 30th yr

CERTIFICATIONS		SHIPPING SPECS	
Product	UL 61215***, UL 61730***, CSA C22.2#61730***, IEC 61215***, IEC 61730***, IEC 61701 (Salt Mist Corrosion), IEC 62716 (Ammonia Corrosion), CEC Listing***, UL Fire Rating: Type 1	Modules Per Pallet:	31 or 31 (California)
Factory	ISO9001:2015	Pallets Per Truck	19 or 18 (California)
		Modules Per Truck	589 or 558 (California)

\* ⚠ Warning. Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.

\*\* 12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at [silfab.com](https://silfab.com).

\*\*\* Certification and CEC listing in progress.



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# SILFAB SOLAR MODULES SAFETY DATA REPORT (MSDS)

This document provides important safety information for the handling of Silfab Solar panels. It is meant to provide information typically included in a Material Safety Data Sheet. A solar panel is considered an Article as defined by OSHA HCS, 29 C.F.R 1910.1200 and is therefore exempt from Safety Data Sheet labeling requirements per said standard. This document provides important safety information in lieu of a full module standard for interested parties seeking a product safety datasheet and does not replace any other installation guidelines, warranty or safety documents provided by Silfab Solar Inc.

## SECTION 1: IDENTIFICATION OF PRODUCT AND COMPANY

- Product Name: SIL-440 QD+, SIL-530 XM, SIL-580 XM+
- Product Type: Monocrystalline, Bifacial, NTC
- Company Info: Silfab Solar Inc.
- Address: 1770 Port Drive, Burlington, WA, 98233, United States
- Telephone: +1 360 569 4733

## SECTION 2: SAFETY RISKS (HAZARD IDENTIFICATION)

Primary Hazards: Electrical shock, mechanical injury.

- Hazard Symbols: None under normal operating conditions.
- Environmental Hazard: None under normal operating conditions.

## SECTION 3: COMPOSITION & INFORMATION OF INGREDIENTS

Section	Component	Material	Ratio (%)	Comments
Laminate	Glass	Silicon dioxide, Sodium oxide, Calcium oxide, Magnesium oxide	65%-75%	Not Hazardous
	Backsheet/ Encapsulant	Plastics (EVA, POE, PET, PPO, PE)	5%-10%	No Hazards Known
	Cell	Silicon	2%-4%	Not Hazardous
	Ribbons/ Metallization	Copper, Tin, Aluminum	< 2%	Not Hazardous
		Lead	< 0.1%	Hazardous
		Silver	<0.1%	Not Hazardous
Frame	Metal	Al / Magnesium/ Iron / Silicon	10%-20%	Not Hazardous
	Adhesive	Silicone	1%-2%	Not Hazardous
Wiring	Cables/ Connectors / Junction Box	Copper	<1%	Not Hazardous
		Plastics (PPO, PPE, PE)	<0.5%	No Hazards Known
		Silicone	<0.5%	Not Hazardous

## SECTION 4: FIRST AID MEASURES

- Eye Contact: Rinse if debris enters eyes.
- Skin Contact: Rinse if in contact with molten polymer.
- Inhalation: None under normal operating conditions.
- Electrocutation: Follow OSHA guidelines.

## SECTION 5: FIRE FIGHTING MEASURES

- Suitable Extinguishing Media: CO2, dry powder
- Special Equipment: A firefighter should use electrical-rated PPE and stay upwind.
- Risk of Reignition: Present when array is exposed to light.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

- Clean-up Procedure: Handle broken glass with gloves; dispose as electronic waste.
- Environmental Protection: Prevent runoff from entering water bodies.

## SECTION 7: HANDLING AND STORAGE

- Store in dry and ventilated areas.
- Do not stack modules in a manner different from the way that they were originally packaged.
- Do not lift modules from the cables or junction box.
- Keep away from flammable gases and heat sources.
- Follow installation instructions.
- Panels should only be installed by qualified personnel.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION EQUIPMENT

- Protective Gloves: Are recommended during installation.
- Eye Protection: Safety glasses are recommended.
- Clothing: Use protective clothing if the module is broken or in a fire.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Physical State: Solid
- Weight: QD = 46.3lbs, XM = 57.8lbs, XM+ = 62.8lbs
- Appearance: Glass-covered solar module
- Odor: Odorless
- Solubility in Water: Insoluble
- Operating Temperature Range: -40°C to +85°C
- Voltage per Module: Refer to electrical data sheet per module (avg. 50V max)

#### SECTION 10: STABILITY AND REACTIVITY

- Stability: Stable under normal use.
- Conditions to Avoid: Fire, high humidity, direct impact
- Hazardous Decomposition: CO, SiO<sub>2</sub> fumes if combusted
- Incompatibility: Strong oxidizing agents

#### SECTION 11: TOXICOLOGICAL INFORMATION

- Acute Toxicity: None expected under normal use.
- Skin/Eye Irritation: None unless broken.
- Carcinogenicity: Not classified

#### SECTION 12: ECOLOGICAL INFORMATION

- Long Lasting components, non-biodegradable
- Recommended recycling at end-of-life

#### SECTION 13: DISPOSAL CONSIDERATIONS

- Recycle according to local e-waste guidelines
- Do Not incinerate

#### SECTION 14: TRANSPORT INFORMATION

- Not Classified as hazardous
- Pack with care to prevent damage during transit

#### SECTION 15: REGULATORY INFORMATION

- Compliant with: IEC 61215, IEC 61730, UL 61730
- OSHA Classification: Article (not hazardous chemicals)

Printed documents are UNCONTROLLED unless stamped as "Controlled Document."

#### SILFAB SOLAR INC.

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2505027

PRECISION ANALYTICAL LABORATORY

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5/9/2025

Silfab Solar

1770 Port Dr.

Burlington, WA 98233

Dear Silfab Solar,

On 5/5/2025 environmental solids samples were received by Precision Analytical Laboratory for analysis. One sample was received by the laboratory and assigned the sample identification number of 2505027. The project was identified as SIL-XM+-001. The sample identification and analysis is outlined in the attached raw data and documents. Information provided by the client and the sampler can impact the validity of results.

No abnormalities were noted upon intake of the sample.

The results produced here are relevant only to the sample submitted for testing and do not apply to similar waste streams. Do not reproduce this report, except in full, without approval from Precision Analytical Laboratories. Please do not hesitate to call me if you have any further questions or need assistance.

Sincerely,

PAL

A handwritten signature in black ink, appearing to read "Julia C. Redfield".

Julia C. Redfield

Laboratory Director



## PRECISION ANALYTICAL LABORATORY

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## Certificate of Analysis

Client:	Silfab Solar 1770 Port Dr. Burlington, WA 98233	Date:	5/9/2025
		WMC-AL Job#:	2505027
Client Contact:	Eric Schneller	Date Received:	5/5/2025
Client Project:		Collection Date:	4/15/2025
Client Sample ID:	SIL-XM+-001	Accreditation#:	L22-468
		WADOE Accreditation#:	WA01069

## Sample Results

Analyte	Method	Results	Reporting Limits	Dilution Factor	Units	Analysis Date	Analysis By
Arsenic	EPA – 6010D – 1311	U	0.06	1	mg/L	5/8/2025	SKG
Barium	EPA – 6010D – 1311	U	0.006	1	mg/L	5/8/2025	SKG
Cadmium	EPA – 6010D – 1311	U	0.012	1	mg/L	5/8/2025	SKG
Chromium	EPA – 6010D – 1311	U	0.03	1	mg/L	5/8/2025	SKG
Lead	EPA – 6010D – 1311	0.821	0.06	1	mg/L	5/8/2025	SKG
Selenium	EPA – 6010D – 1311	U	0.03	1	mg/L	5/8/2025	SKG
Silver	EPA – 6010D – 1311	J	0.003	1	mg/L	5/8/2025	SKG
Mercury	EPA – 7471A – 1311	U	0.0002	1	mg/L	5/8/2025	SKG/MJC

U – Analyte was not detected above the reporting limit. J – sample was detected above the method detection limit but below the reporting limit.

## Certificate of Analysis

Client:	Silfab Solar 1770 Port Dr. Burlington, WA 98233	Date:	5/9/2025
		WMC-AL Job#:	2505027
Client Contact:	Eric Schneller	Date Received:	5/5/2025
Client Project:		Collection Date:	4/15/2025
Client Sample ID:	SIL-XM+-001	Accreditation#:	L22-468
		WADOE Accreditation#:	WA01069

## Laboratory Blank Results

Analyte	Method	Results	Reporting Limits	Dilution Factor	Units	Analysis Date	Analysis By
<b>Method Blank</b>							
Arsenic	EPA – 6010D – 1311	U	0.06	1	mg/L	5/8/2025	SKG
Barium	EPA – 6010D – 1311	U	0.003	1	mg/L	5/8/2025	SKG
Cadmium	EPA – 6010D – 1311	U	0.012	1	mg/L	5/8/2025	SKG
Chromium	EPA – 6010D – 1311	U	0.03	1	mg/L	5/8/2025	SKG
Lead	EPA – 6010D – 1311	U	0.06	1	mg/L	5/8/2025	SKG
Selenium	EPA – 6010D – 1311	U	0.03	1	mg/L	5/8/2025	SKG
Silver	EPA – 6010D – 1311	U	0.003	1	mg/L	5/8/2025	SKG
Mercury	EPA – 7471A – 1311	U	0.000002	1	mg/L	5/8/2025	SKG/MJC

U – Analyte analyzed for but not detected at a level above the reporting limit.



PRECISION ANALYTICAL LABORATORY

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Certificate of Analysis

Client: Silfab Solar  
1770 Port Dr.  
Burlington, WA 98233

Date: 5/9/2025  
WMC-AL Job#: 2505027  
Date Received: 5/5/2025  
Collection Date: 4/15/2025  
Accreditation#: L22-468  
WADOE Accreditation#: WA01069

Client Contact: Eric Schneller  
Client Project:  
Client Sample ID: SIL-XM+-001

Duplicate Sample Results

Analyte	Method	RPD	Qualifier	Limits	Analysis Date	Analysis By
<b>Duplicate Sample Results</b>						
Arsenic – DUP	EPA – 6010D – 1311	0.0		25	5/8/2025	SKG
Barium – DUP	EPA – 6010D – 1311	2.4		25	5/8/2025	SKG
Cadmium – DUP	EPA – 6010D – 1311	0.0		25	5/8/2025	SKG
Chromium – DUP	EPA – 6010D – 1311	1.9		25	5/8/2025	SKG
Lead – DUP	EPA – 6010D – 1311	0.0		25	5/8/2025	SKG
Selenium – DUP	EPA – 6010D – 1311	0.0		25	5/8/2025	SKG
Silver – DUP	EPA – 6010D – 1311	0.0		25	5/8/2025	SKG
Mercury – DUP	EPA – 7471A – 1311	0.0		25	5/8/2025	SKG/MJC

Approved by:



Laboratory Director