

APPLICATION FOR ARCHITECTURAL DESIGN REVIEW APPROVAL

CITY OF CONCORD, NH - PLANNING BOARD

GENERAL INFORMATION

OWNER'S NAME: New Hampshire Distributors Inc.

STREET ADDRESS: P.O. Box 267

CITY, STATE, & ZIP CODE: Concord, New Hampshire 03302-0267

TELEPHONE #: 603-224-9991 EMAIL ADDRESS: TPainchaud@nhdist.com

AGENT'S NAME (IF APPLICABLE): ReVision Energy

STREET ADDRESS: 7A Commercial Drive

CITY, STATE, & ZIP CODE: Brentwood, New Hampshire 03833

TELEPHONE #: 603-969-5874 EMAIL ADDRESS: tgenatossio@revisionenergy.com

APPLICATION FEE \$ 150.00

For the property being reviewed, please complete the following:

TYPE OF DESIGN REVIEW: ☐ SITE IMPROVEMENTS ☐ NEW CONSTRUCTION ☒ RENOVATION

PROPERTY ADDRESS: 1 Horseshoe Pond Lane

ABUTTING STREETS: Commercial Street

EXISTING LOT SIZE(s): 3.5 acres ACRES OR _____ SQUARE FEET

ASSESSOR'S MAP/BLOCK/LOT #(s): 594 / Z11 / _____

ZONING DISTRICT(s): OCP

OVERLAY DISTRICTS (CHECK ALL THAT APPLY):

HISTORIC (HI): _____ SHORELAND PROTECTION (SP): _____ FLOOD HAZARD (FH): _____

AQUIFER PROTECTION (AP): _____ PENACOOK LAKE WATERSHED PROTECTION (WS): _____

PROJECT DESCRIPTION

Please provide a brief description of your project in the space below.

Installation of a new solar array on the roof of the building.

REQUIRED INFORMATION

Please provide a detailed project narrative that describes the existing conditions of the property and the proposed improvements. Include with this project narrative photos of the existing structure and/or site from various vantage points and, as applicable, plans, elevations and details of the proposed work, including materials, colors, windows, landscaping, signage, and any other information that will help us understand your project.

YOUR PROJECT WILL NOT BE CONSIDERED COMPLETE WITHOUT A DETAILED PROJECT NARRATIVE.

PROFESSIONAL SUPPORT

Please provide contact information for each professional involved in the preparation of this application, including the engineer, architect, surveyor, attorney, wetland scientist, landscape architect, etc.

NAME: The H.L. Turner Group Inc. **PROFESSION:** Architects & Engineers

STREET ADDRESS: 27 Locke Road

CITY, STATE, & ZIP CODE: Concord, New Hampshire 03301

TELEPHONE #: 603-228-1122 **EMAIL ADDRESS:** bhickey@hlturner.com

NAME: ReVision Energy **PROFESSION:** Solar Installer: Engineering and Construction

STREET ADDRESS: 7a Commercial Drive

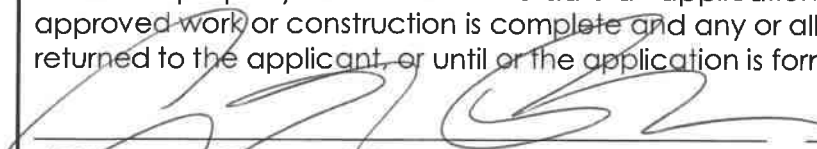
CITY, STATE, & ZIP CODE: Brentwood, NH, 03833

TELEPHONE #: 603-679-1777 **EMAIL ADDRESS:** tgenatossio@revisionenergy.com

ATTACH ADDITIONAL SHEETS AS NECESSARY FOR ALL PROFESSIONALS INVOLVED WITH THE PROJECT

ENDORSEMENTS

I hereby request that the City of Concord Planning Board review this application for Architectural Design Review approval, including all plans, documents, and information herewith. I represent to the best of my knowledge and belief that this application is being submitted in accordance with the Architectural Design Review Guidelines and all regulations of the City of Concord Planning Board. I also understand that submittal of this application for Architectural Design Review approval shall be deemed as granting of permission for the City staff, Planning Board members, and their designees to enter onto the property for purposes of inspection and review. Permission to visit the property extends from the date an application is submitted to the Planning Division until approved work or construction is complete and any or all of the financial guarantees have been returned to the applicant, or until or the application is formally denied.


SIGNATURE OF PROPERTY OWNER

5/17/21
DATE

5/17/2021


SIGNATURE OF AGENT (IF APPLICABLE)

DATE

May 14, 2021

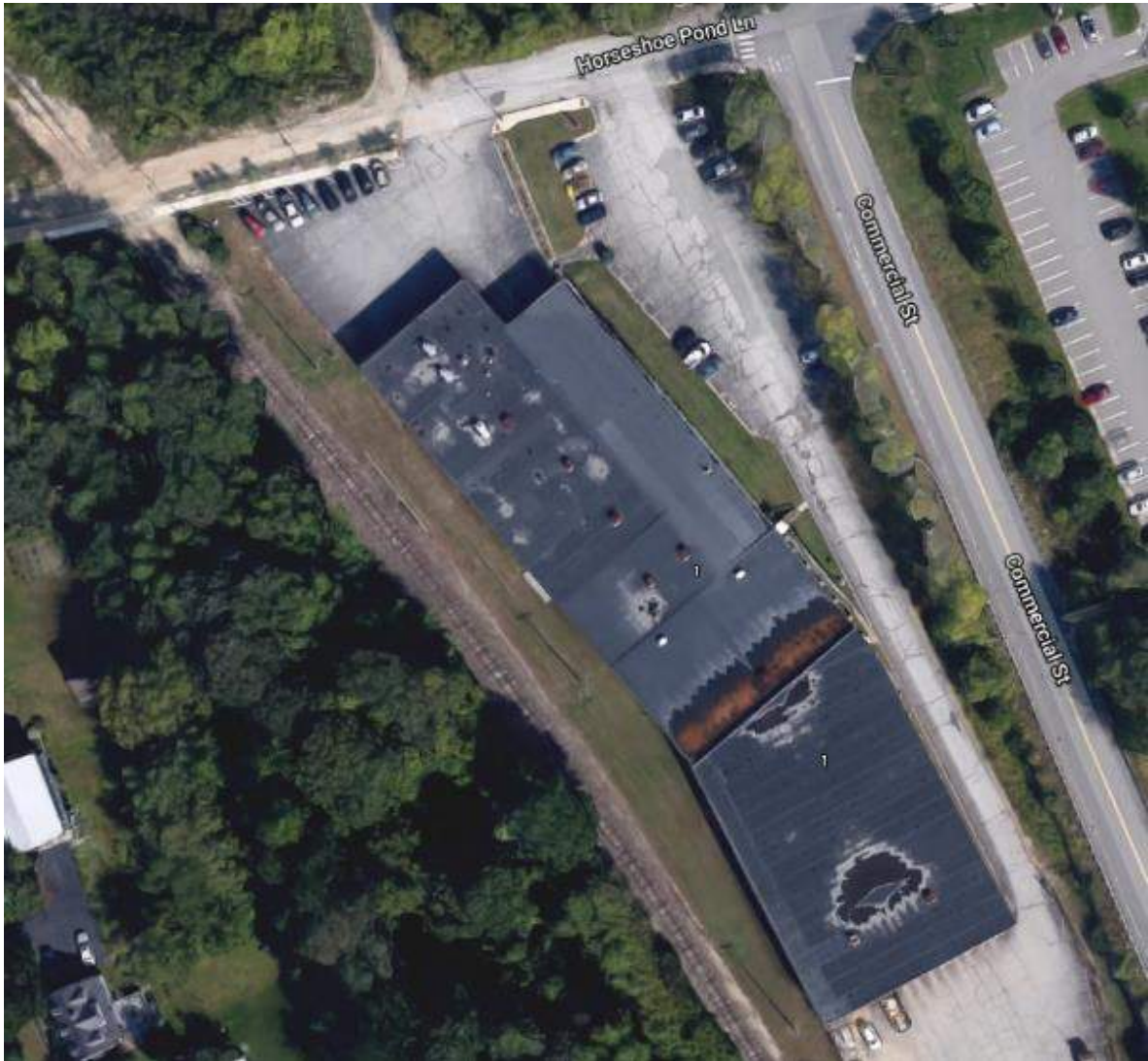
Project Narrative – One Horseshoe Pond Lane Rooftop Solar Array

The property owner, New Hampshire Distributors Inc., is proposing to add a new solar array on the roof of the building located at 1 Horseshoe Pond Road. The intent of the array is to reduce the reliance on fossil fuels for the electrical needs of the building.

The array is being added mainly on the northern roof of the building. The array will consist of 376 solar panels and 2 inverters. The panels will be supported by a EcoFoot2+ support system. The panels will be installed very close to the roof surface and will be at a 10-degree angle. We have attached a copy of the support system and panel cut sheets for your review.

The panels will only be visible from Interstate 393 and portion of Commercial Street that is at the intersection with 393.





Aerial Photo of the Building at 1 Horseshoe Pond Lane



The south elevation of the building and roof from Interstate 393



The south elevation of the building and roof from Interstate 393



The south elevation of the building and roof from Commercial Street



The east elevation of the building at the Commercial Street & Horseshoe Pond Lane Intersection

PROJECT SUMMARY:

THE PROJECT SCOPE INCLUDES THE DESIGN, SPECIFICATION, PROCUREMENT, INSTALLATION AND COMMISSIONING OF A COMPLETE, TURN-KEY, GRID-TIED PHOTOVOLTAIC ELECTRIC SYSTEM.

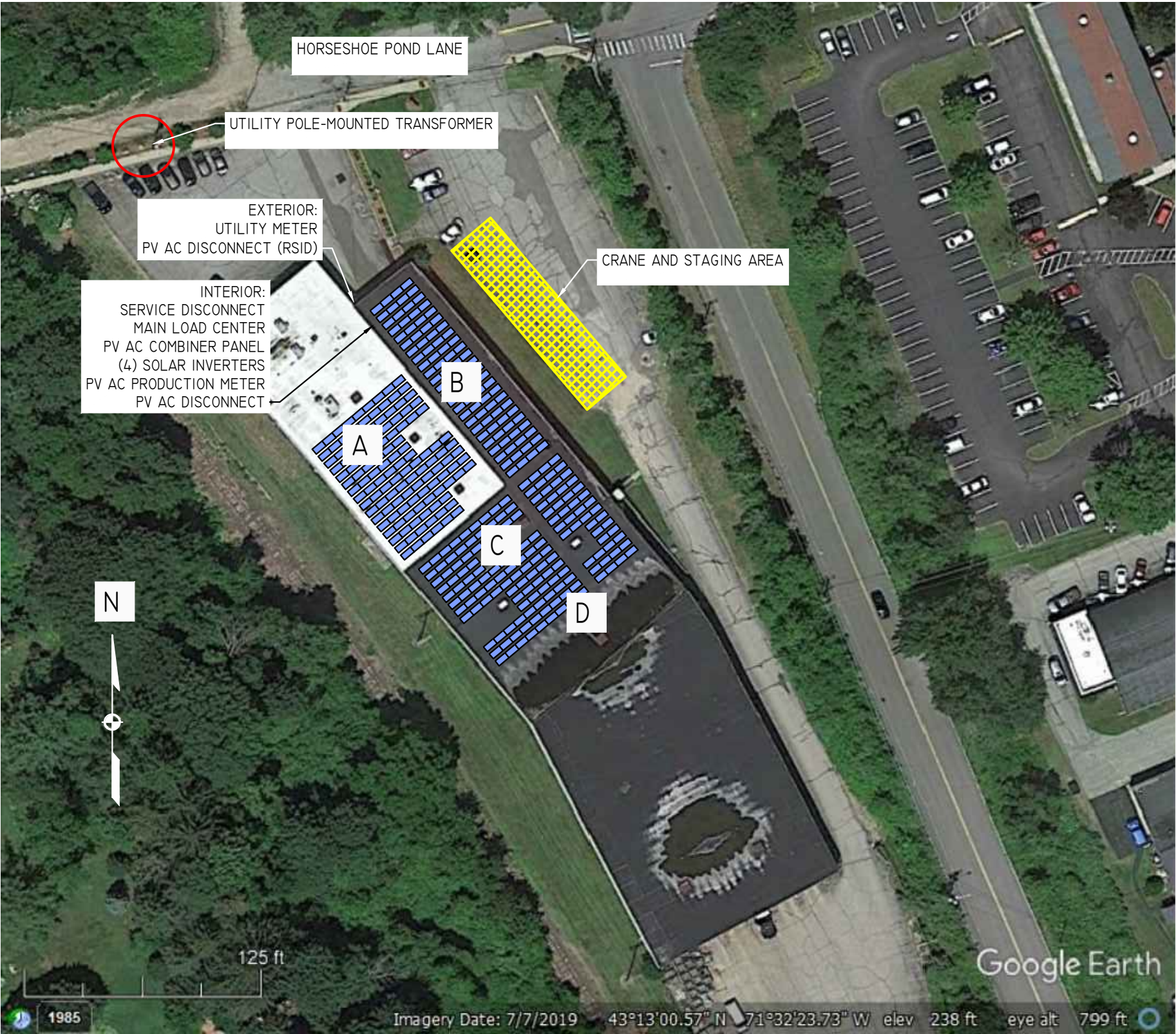
MODULE TYPE	(376) BOVIET BVM66I2M-405L-H-HC-BF-DG
INVERTER	(2) SE43.2KUS (2) SEI4.4K-US
OPTIMIZER	(192) SOLAREDGE P860
ARRAY PITCH	10°
ARRAY AZIMUTH	140°
RACKING	ECOLIBRIUM
ATTACHMENT	N/A

DESIGN CRITERIA:

OCCUPANCY	COMMERCIAL
DESIGN WIND LOAD	115 MPH
RISK CATEGORY	II
GROUND SNOW LOAD	70 PSF
EXPOSURE CATEGORY	C
ROOF HEIGHT	22' ABOVE GRADE TO EAVES
ROOF COMPOSITION	EPDM
RAFTER	ROOF A 2"x10", ROOF B 22H8 STEEL JOISTS, ROOF C 22H7 STEEL JOISTS, ROOF D 44LH11 STEEL JOISTS
RAFTER SPACING	ROOF A 16" O.C., ROOF B 48" O.C., ROOF C 38" O.C., ROOF D 72" O.C.

EQUIPMENT LOCATIONS:

- INTERIOR:
- SERVICE DISCONNECT
MAIN LOAD CENTER
PV AC COMBINER PANEL
(4) SOLAR INVERTER INVERTERS
PV AC PRODUCTION METER
PV AC DISCONNECT
- EXTERIOR:
- UTILITY METER
PV AC DISCONNECT (RSID)



REVISION
ENERGY

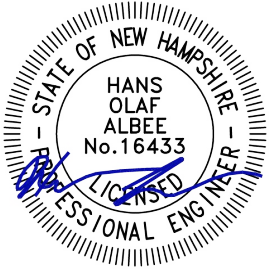
7 COMMERCIAL DRIVE
BRENTWOOD, NH 03833
(603)-679-1777

CLIENT:

NEW HAMPSHIRE DISTRIBUTORS,
LLC
1 HORSESHOE POND LN
CONCORD NH, 03301

SYSTEM TYPE:

152.28KW DC 115.2KW AC GRID
TIED SOLAR PHOTOVOLTAIC
SYSTEM



NOT FOR CONSTRUCTION

DESIGNED BY:	MCF
REVISION:	0
PRINT SIZE:	11" X 17"
DATE:	4/12/2021
DWG TITLE:	

SITE PLAN

DWG NUMBER:	A002
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THIS DIAGRAM IS PROVIDED AS A SERVICE AND IS BASED ON THE UNDERSTANDING OF THE INFORMATION SUPPLIED. IT IS SUBJECT TO CHANGE BASED ON ACTUAL CONDITIONS, APPLICABLE EDITION OF THE NATIONAL ELECTRIC CODE, AND LOCAL GOVERNMENTAL AUTHORITIES.



NHD WAREHOUSE

REVISION ENERGY SOLAR ARRAY

SCALE:

VIEW FROM I-393

DATE: 05/14/2021

SHEET: A1.5

PROJECT 5158





Advancing the Power of the Sun

72 Cell Mono
390-405W

BVM6612M(L)-(SERIES)HC

0~+5W
Power Tolerance

19.9%
Maximum Efficiency

390-405W
Power Output Range



39.53 x 79.77 Inches
Silver Frame / White Backsheet



High Quality and Reliable Modules

- ◆ Withstand up to 5400 Pa snow load and 2400 Pa wind load
- ◆ 2 EL inspections per cell/module for defect-free consistency
- ◆ Type 1 fire-rating per UL61730
- ◆ High salt and ammonia resistance certified
- ◆ 0~+5 W guaranteed positive tolerance
- ◆ Rugged design for long-term durability; passed extended reliability tests



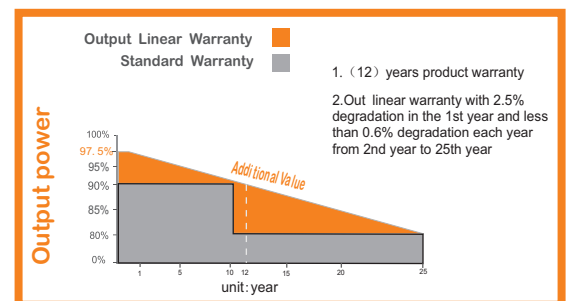
Warranty

- ◆ 12-year product warranty
- ◆ 25-year linear power output warranty



Comprehensive Certificates for Products and Management

- ◆ UL 61730, IEC 61215, IEC 61730, CEC listed, MCS and CE
- ◆ ISO 9001 for Quality Management Systems
- ◆ ISO 14001 for Environmental Management Systems
- ◆ OHSAS 18001 Occupational Health and Safety Systems



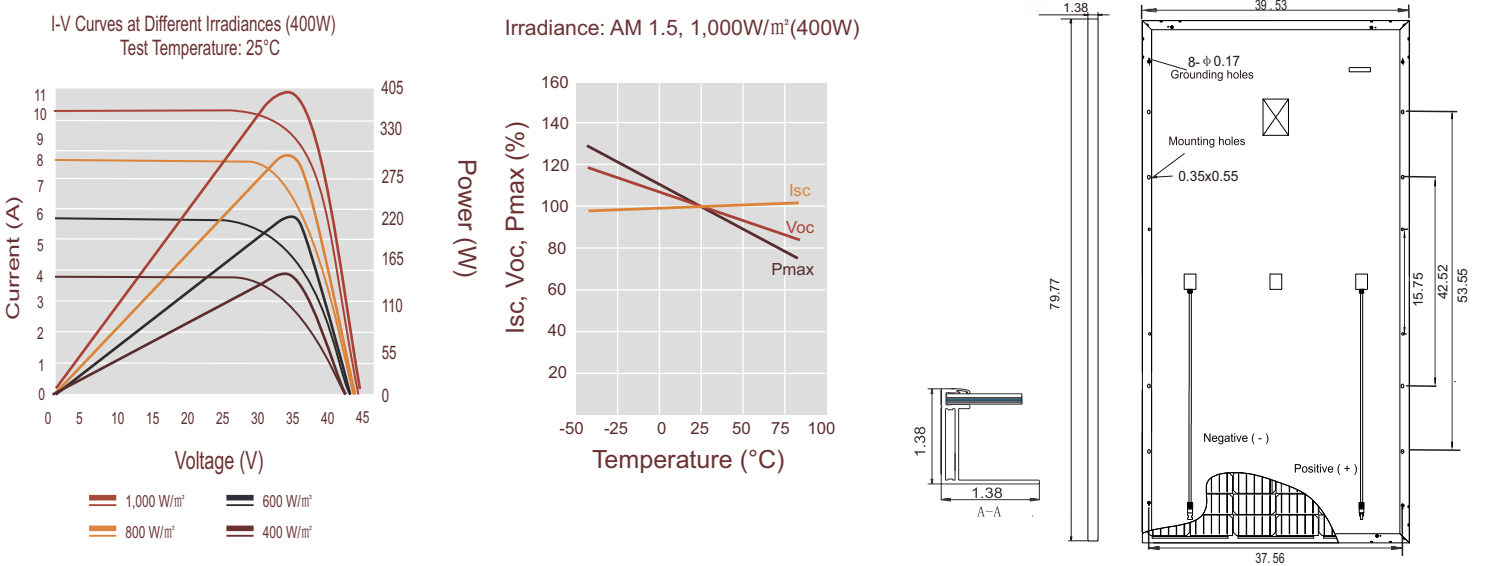
Listed in Bloomberg New Energy Finance's tier 1 list as of 1Q 2018



2107 N 1st Street Suite 550 San Jose, CA 95131

BOVIETSOLARUSA.COM ♦ 877.253.2858 ♦ SALES@BOVIETSOLARUSA.COM

Electrical Characteristics STC				
BVM6612M-390L-H-HC		BVM6612M-395L-H-HC	BVM6612M-400L-H-HC	BVM6612M-405L-H-HC
Maximum Power (Pmax)	390W	395W	400W	405W
Maximum Power Current (Imp)	9.82A	9.90A	9.98A	10.06A
Maximum Power Voltage (Vmp)	39.79V	39.97V	40.16V	40.33V
Short Circuit Current (Isc)	10.33A	10.42A	10.45A	10.49A
Open Circuit Voltage (Voc)	48.65V	48.85V	49.15V	49.45V
Module Efficiency	19.2%	19.4%	19.7%	19.9%
Power Tolerance	0~+5W	0~+5W	0~+5W	0~+5W
STC: AM1.5, Irradiance 1000W/m², 25°C				
Electrical Characteristics NOCT				
BVM6612M-390L-H-HC		BVM6612M-395L-H-HC	BVM6612M-400L-H-HC	BVM6612M-405L-H-HC
Maximum Power (Pmax)	286W	290W	295W	298W
Maximum Power Current (Imp)	7.81A	7.86A	7.93A	7.99A
Maximum Power Voltage (Vmp)	36.7V	36.9V	37.20V	37.30V
Short Circuit Current (Isc)	8.33A	8.40A	8.47A	8.54A
Open Circuit Voltage (Voc)	45.5V	45.8V	46.1V	46.4V
NOCT: AM1.5, Irradiance 800W/m², 20°C, Wind speed 1m/s				
Mechanical Characteristics			Thermal Characteristics	
Solar Cell	Monocrystalline 6.25 x 3.125 inch, 144 (6 x 24) pcs. in series		Pmax Temperature Coefficient	-0.38%/K
Glass	High transparency, low iron, AR coated tempered glass 3.2 mm (0.13 inch)		Voc Temperature Coefficient	-0.31%/K
Frame	Anodized aluminum alloy		Isc Temperature Coefficient	+0.06%/K
Junction Box	IP67 rated, with 3 bypass diode		NOCT	113±3.6°F
Output Cable	4 mm² (EU)/12 AWG (US), 15.76 inch			
Connector	MC4 compatible			
Dimension	79.77 x 39.53 x 1.38 inch			
Weight	52.91 lb			
Maximum Ratings			Packing Information	
Operating Temperature	-40°F~185°F		Pieces per pallet	30
Maximum Series Fuse Rating	20A		Pallets per container (40HQ)	22
Maximum System Voltage	1000/1500V DC		Pieces per container (40HQ)	660
			Pallet weight/size	1642 lb/ 80.79 x 43.10 x 45.08 inch



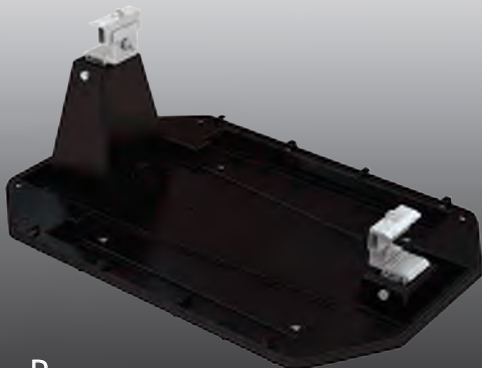
EcoFoot2+™

Back in Black

PV installation Professionals use EcoFoot2+ to complete their projects in record time. The refreshed EcoFoot2+ design is now available in Black, along with a comprehensive UL2703 certification.

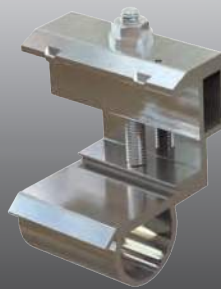


Three main components



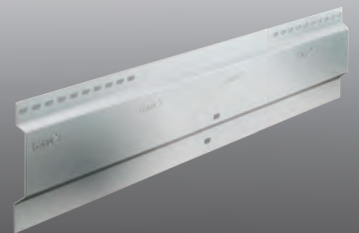
Base

Our new UL-Listed ASA based resin is a durable material commonly used in automotive and construction applications. The material is class A fire rated as part of our UL2703 Certification.



Preassembled Universal Clamp

The new preassembled universal clamp achieves integrated grounding without the use of grounding washers.



Wind Deflector

Corrosion-resistant wind deflector on every module helps minimize uplift, reduce ballast requirements and carries UL2703 validated ground path from modules and racking components.

EcoFoot2 + Installer Feedback = EcoFoot2+™

Our design enhancements help you master the most challenging site and rooftop conditions



System Benefits

- Low part count
 - Rapid system deployment
 - Preassembled Universal Clamp
 - Increased design flexibility
 - More ballast capacity
 - Simplified logistics
- (up to 50kW per pallet)

Validation Summary

- Certified to UL2703 Fire Class A for Type I and II modules
- Certified to UL2703 Grounding and Bonding
- Wind tunnel tested to 150mph
- SEAOC seismic compliant
- CFD and structurally tested DNV GL rated at 13.5 panels per installer-hour

Technical Specifications

Dimensions: 26.5" L x 18.25" W x 8.3" H

Typical System Weight: 3.5–6 lbs. per sq. ft.

Module orientation: Landscape/Portrait

Tilt angle: Landscape 10°/Portrait 5°

Module inter-row spacing: 18.9"

Roof pitch: 0° to 7°

Ballast requirements: 4" x 8" x 16"

Warranty: 25 years