



HISTORIC PRESERVATION COMMISSION

Marc Elrich
County Executive

Robert K. Sutton
Chairman

Date: April 2, 2024

MEMORANDUM

TO: Rabbiah Sabbakhan, DPS Director Department of Permitting Services
Rebecca Ballo

FROM: Historic Preservation Section
Maryland-National Capital Park & Planning Commission Historic
Area Work Permit #1063137 - Solar Panel Installation

SUBJECT:

The Montgomery County Historic Preservation Commission (HPC) has reviewed the attached application for a Historic Area Work Permit (HAWP). This application was **Approved** by the HPC Staff.

The HPC staff has reviewed and stamped the attached construction drawings.

THE BUILDING PERMIT FOR THIS PROJECT SHALL BE ISSUED CONDITIONAL UPON ADHERENCE TO THE ABOVE APPROVED HAWP CONDITIONS AND MAY REQUIRE APPROVAL BY DPS OR ANOTHER LOCAL OFFICE BEFORE WORK CAN BEGIN.

Applicant: Hans Riemer
Address: 7701 Takoma Avenue, Takoma Park

This HAWP approval is subject to the general condition that the applicant will obtain all other applicable Montgomery County or local government agency permits. After the issuance of these permits, the applicant must contact this Historic Preservation Office if any changes to the approved plan are made. Once work is complete the applicant will contact Rebecca Ballo at 301.563.3404 or Rebecca.Ballo@montgomeryplanning.org to schedule a follow-up site visit.





HISTORIC PRESERVATION COMMISSION

HAWP #: _____ at: _____

submitted on: _____

has been reviewed and determined that the proposal fits into the following category/categories:

Repair or replacement of a masonry foundation with new masonry materials that closely match the original in appearance;

Installation of vents or venting pipes in locations not visible from the public right-of-way;

New gutters and downspouts;

Removal of vinyl, aluminum, asbestos, or other artificial siding when the original siding is to be repaired and/or replaced in kind;

Removal of accessory buildings that are not original to the site or non-historic construction;

Repair or replacement of missing or deteriorated architectural details such as trim or other millwork, stairs or stoops, porch decking or ceilings, columns, railings, balusters, brackets shutters, etc., with new materials that match the old in design, texture, visual characteristics, and, where possible materials, so long as the applicant is able to provide one extant example, photographic evidence, or physical evidence that serves as the basis for the work proposed;

Construction of wooden decks that are at the rear of a structure and are not visible from a public right-of-way;

Roof replacement with -compatible roofing materials, or with architectural shingles replacing 3-Tab asphalt shingles;

Installation of storm windows or doors that are compatible with the historic resource or district;

Repair, replacement or installation of foundation-level doors, windows, window wells, and areaways, or foundation vents, venting pipes, or exterior grills that do not alter the character-defining features and/or the historic character of the resource;

Construction of fences that are compatible with the historic site or district in material, height, location, and design;

Fence is lower than 48" in front of rear wall plane;

Construction of walkways, parking pads, patios, driveways, or other paved areas that are not visible from a public right-of-way and measure no more than 150 square feet in size;

Replacement of existing walkways, parking pads, patios, driveways, or other paved areas with materials that are compatible with the visual character of the historic site and district and that are no greater than the dimensions of the existing hardscape;

Construction of small accessory buildings no larger than 250 square feet in size that are not visible from the public right-of-way;

Installations of skylights on the rear of a structure that will not be visible from the public right-of-way, and would not remove or alter character-defining roof materials;

Installation of solar panels and arrays in locations that are not readily visible from the public right-of-way or that are designed so as to have a minimal impact on the historic resource or the historic district (e.g., systems that are ground-mounted in areas other than the front or side yard of a corner lot, located on accessory or outbuildings, on non-historic additions, or on rear facing roof planes);

Installation of car charging stations in any location on a property or in the right-of-way;

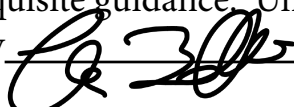
Installation of satellite dishes;

Removal of trees greater than 6" in diameter (d.b.h.) that are dead, dying, or present an immediate hazard.

Removal of trees greater than 6" in diameter (d.b.h.) in the rear of the property that will not impact the overall tree canopy of the surrounding district or historic site;

Replacement tree required as a condition; and,

Other minor alterations that may be required by the Department of Permitting Services post-Commission approval that would have no material effect on the historic character of the property.

Staff finds the proposal complies with Chapter 24A, the Secretary of the Interior's Standards for Rehabilitation, and any additional requisite guidance. Under the authority of COMCOR No. 24A.04.01, this HAWP is approved by  on _____. The approval memo and stamped drawings follow.



FOR STAFF ONLY:
HAWP# 1063137
DATE ASSIGNED _____

APPLICATION FOR HISTORIC AREA WORK PERMIT

HISTORIC PRESERVATION COMMISSION
301.563.3400

APPLICANT:

Name: _____ E-mail: _____
Address: _____ City: _____ Zip: _____
Daytime Phone: _____ Tax Account No.: _____

AGENT/CONTACT (if applicable):

Name: _____ E-mail: _____
Address: _____ City: _____ Zip: _____
Daytime Phone: _____ Contractor Registration No.: _____

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property _____

Is the Property Located within an Historic District? Yes/District Name _____
No/Individual Site Name _____

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: _____ Street: _____

Town/City: _____ Nearest Cross Street: _____

Lot: _____ Block: _____ Subdivision: _____ Parcel: _____

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all surveys for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

- New Construction
- Addition
- Demolition
- Grading/Excavation
- Deck/Porch
- Fence
- Hardscape/Landscape
- Roof

- Shed/Garage
- Solar
- Tree removal/planting
- Window/Door



REVIEWED

By *Rebecca Ballo* at 3:13 pm, Apr 02, 2024

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

Barkley Estes

Signature of owner or authorized agent

Date

HAWP APPLICATION: MAILING ADDRESSES FOR NOTIFYING
[Owner, Owner's Agent, Adjacent and Confronting Property Owners]

Owner's mailing address	Owner's Agent's mailing address
Adjacent and confronting Property Owners mailing addresses	

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

Description of Work Proposed: Please give an overview of the work to be undertaken:



REVIEWED
By Rebecca Ballo at 3:12 pm, Apr 02, 2024

Work Item 1: _____	
Description of Current Condition:	Proposed Work:

Work Item 2: _____	
Description of Current Condition:	Proposed Work:

Work Item 3: _____	
Description of Current Condition:	Proposed Work:

**HISTORIC AREA WORK PERMIT
CHECKLIST OF
APPLICATION REQUIREMENTS**

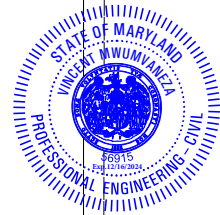
	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/Parking Area	*	*		*	*	*	*
Grading/Excavation/Landscaping	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

HANS RIEMER NEW GRID-INTERACTIVE PHOTOVOLTAIC SYSTEM DC SYSTEM SIZE (3.96 KW)

Nova Solar

NOVA SOLAR, INC.
3305 DYE DR, FALLS CHURCH,
VA 22042

Signature with Seal



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NUMBER: 56915
EXPIRATION DATE: 12/31/2024

Signed: 03/13/2024

SYSTEM DETAILS

DESCRIPTION	NEW GRID-INTERACTIVE PHOTOVOLTAIC SYSTEM WITH NO BATTERY STORAGE
DC RATING OF SYSTEM	SYSTEM SIZE :3.96 KW DC STC
AC RATING OF SYSTEM	2.61 KW
AC OUTPUT CURRENT	10.89 A
NO. OF MODULES	(09) APTOS DNA-120-MF26-440W SOLAR MODULES
NO. OF INVERTERS	(09) ENPHASE IQ8PLUS-72-2-US MICROINVERTERS
POINT OF CONNECTION	BACKFEED BREAKER IN THE MSP
ARRAY STRINGING	(1) STRING OF 08 MODULES (1) STRING OF 01 MODULE

SITE DETAILS

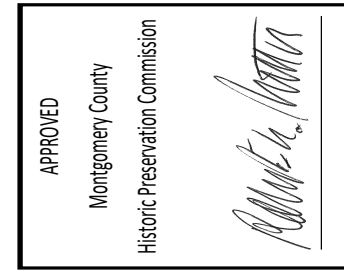
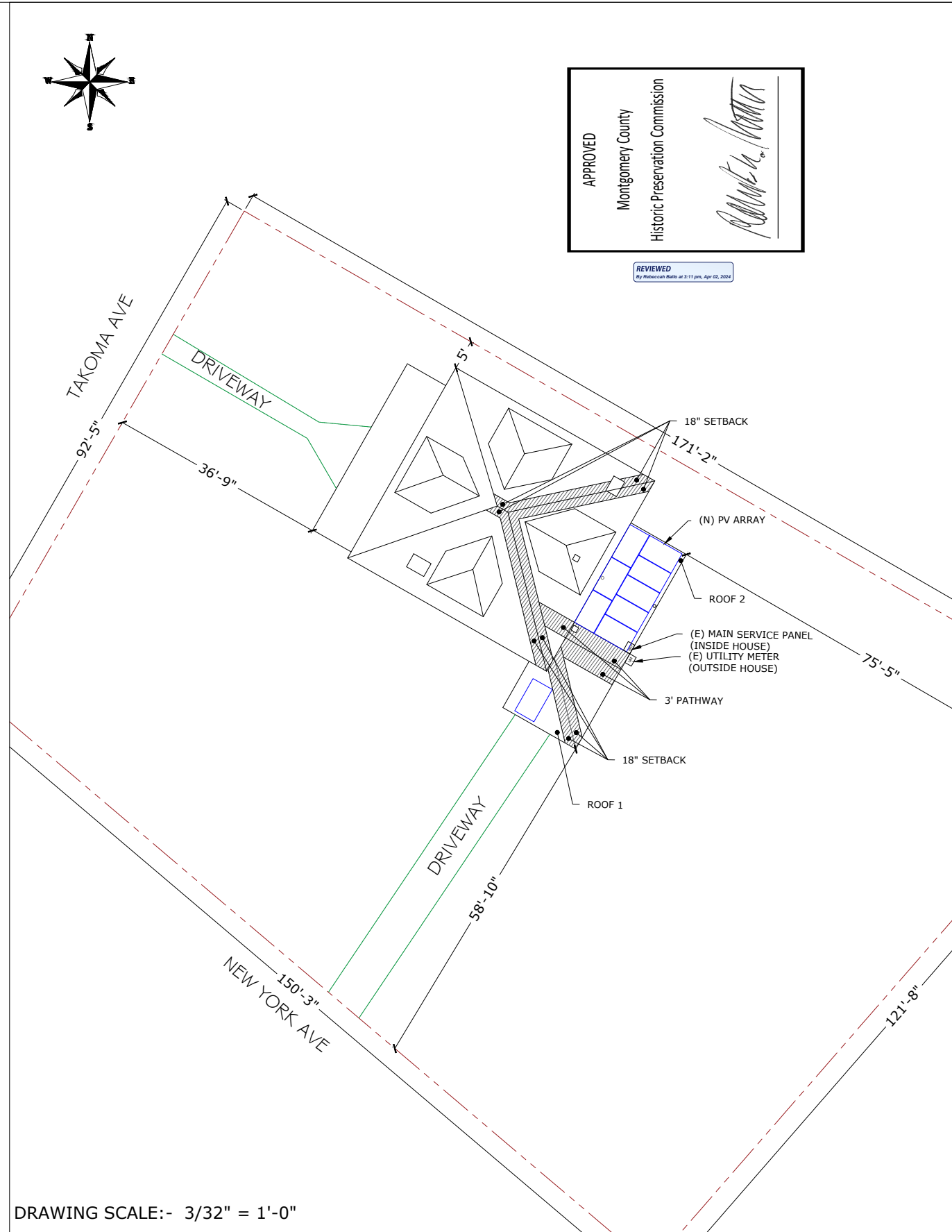
ASHRAE EXTREME LOW	-12°C
ASHRAE 2% HIGH	34°C
GROUND SNOW LOAD	30 PSF
WIND SPEED	115MPH
RISK CATEGORY	II
WIND EXPOSURE CATEGORY	B

GOVERNING CODES

INTERNATIONAL BUILDING CODE (IBC) 2018
INTERNATIONAL FIRE CODE (IFC) 2018
NATIONAL ELECTRICAL CODE (NEC) 2017
INTERNATIONAL RESIDENTIAL CODE (IRC) 2018

SHEET INDEX

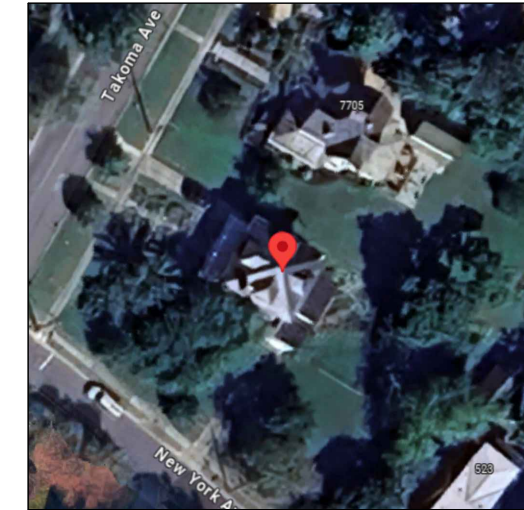
SHEET NO.	SHEET NAME
A - 00	SITE MAP & VICINITY MAP
A - 01	ROOF PLAN & MODULES
S - 01	ARRAY LAYOUT & STRUCTURAL ATTACHMENT DETAIL
E - 01	ELECTRICAL LINE DIAGRAM
E - 02	WIRING CALCULATIONS
E - 03	SYSTEM LABELING
DS - 01	MODULE DATASHEET
DS - 02	INVERTER DATASHEET
DS - 03	JUNCTION BOX DATASHEET
DS - 04	ATTACHMENT DATASHEET
DS - 05	RACKING DATASHEET
DS - 06	GROUNDING & BONDING DATASHEET



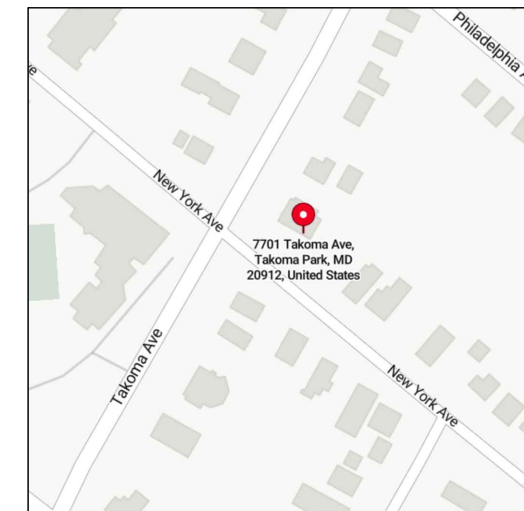
REVIEWED
By Rebecca Barbo at 3:11 pm, Apr 02, 2024

DRAWING SCALE:- 3/32" = 1'-0"

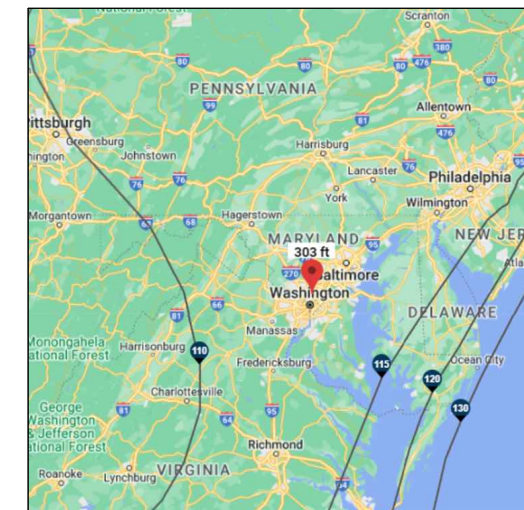
SITE MAP (N.T.S)



VICINITY MAP



WIND FLOW MAP



HANS RIEMER

7701 TAKOMA AVE,
TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
MD 21225, USA.

PERMIT DEVELOPER

DATE 03/12/2024

DESIGNER OAM

REVIEWER

SHEET NAME

**SITE MAP &
VICINITY MAP**

SHEET NUMBER

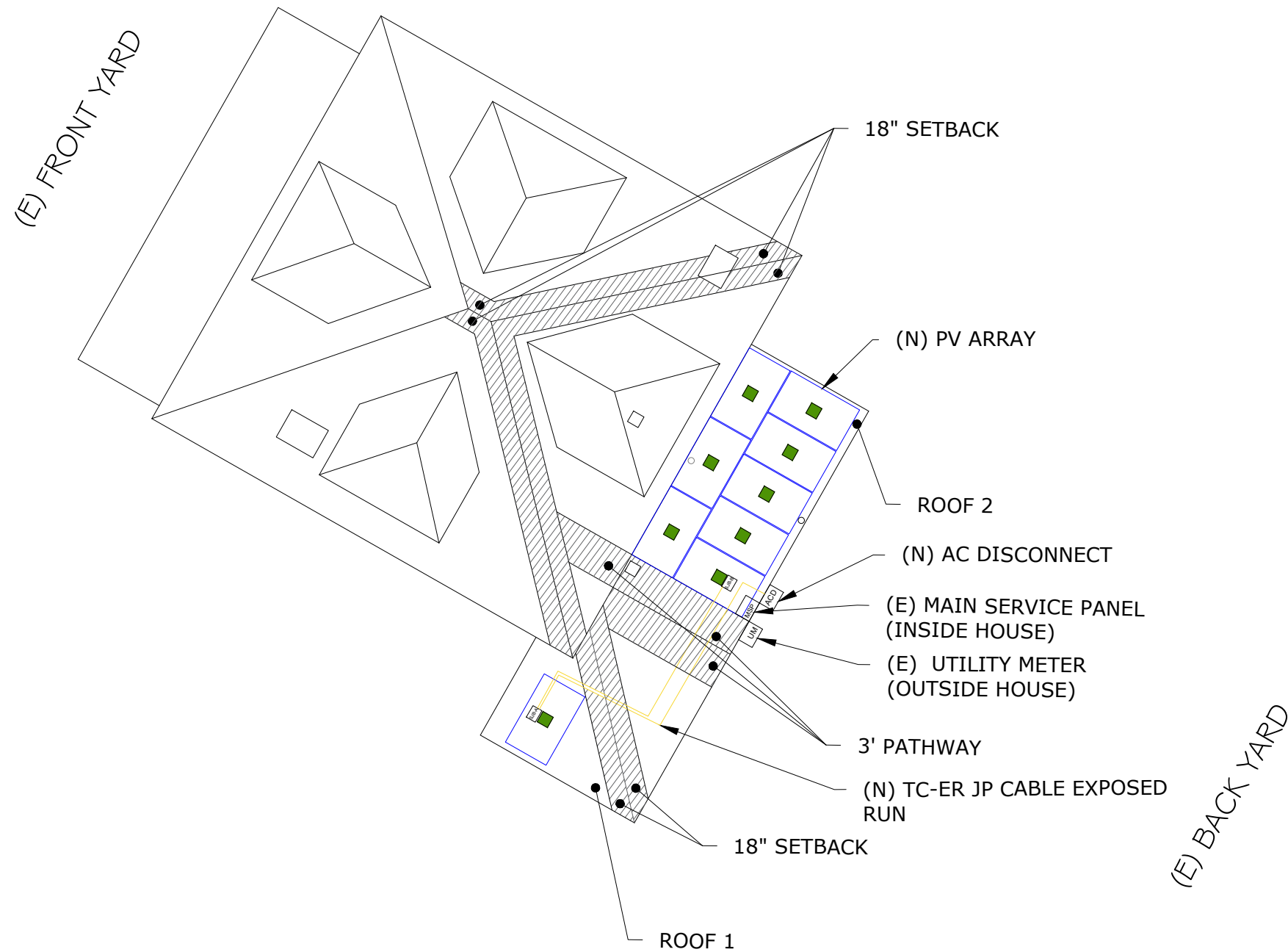
A-00

MODULE TYPE, DIMENSIONS & WEIGHT

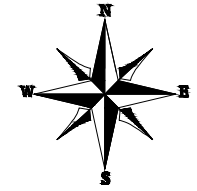
NUMBER OF MODULES = 09 MODULES
 MODULE TYPE = APTOS DNA-120-MF26-440W SOLAR MODULES
 WEIGHT = 53.13 LBS / 24.1 KG.
 MODULE DIMENSIONS = 82.48" X 40.90" = 23.43 SF

NUMBER OF INVERTER = 09 MICROINVERTERS
 INVERTER TYPE = ENPHASE IQ8PLUS-72-2-US MICROINVERTERS

DC SYSTEM SIZE: 3.96 KW
 AC SYSTEM SIZE: 2.61 KW



DRAWING SCALE:- 3/16" = 1'-0"



Nova Solar
 NOVA SOLAR, INC.
 3305 DYE DR, FALLS CHURCH,
 VA 22042

Signature with Seal

Signed: 03/13/2024

APPROVED
 Montgomery County
 Historic Preservation Commission

REVIEWED
 By Rebecca Ballo at 3:11 pm, Apr 02, 2024

HANS RIEMER
 7701 TAKOMA AVE,
 TAKOMA PARK, MD 20912

ROOF AREA: 2083SQ. FT
 PV AREA: 210.84 SQ.FT
 ROOF COVERAGE % : 0.10%

LEGENDS

- UM - UTILITY METER
- MSP - MAIN SERVICE PANEL
- ACD - AC DISCONNECT
- SJB - JUNCTION BOX
- - MICROINVERTERS
- □ - VENT, ATTIC FAN (ROOF OBSTRUCTION)
- CABLE

Green World Renewable Energy
 Clean, Safe, Renewable

4408, RICKIE HWY, BALTIMORE,
 MD 21225, USA.

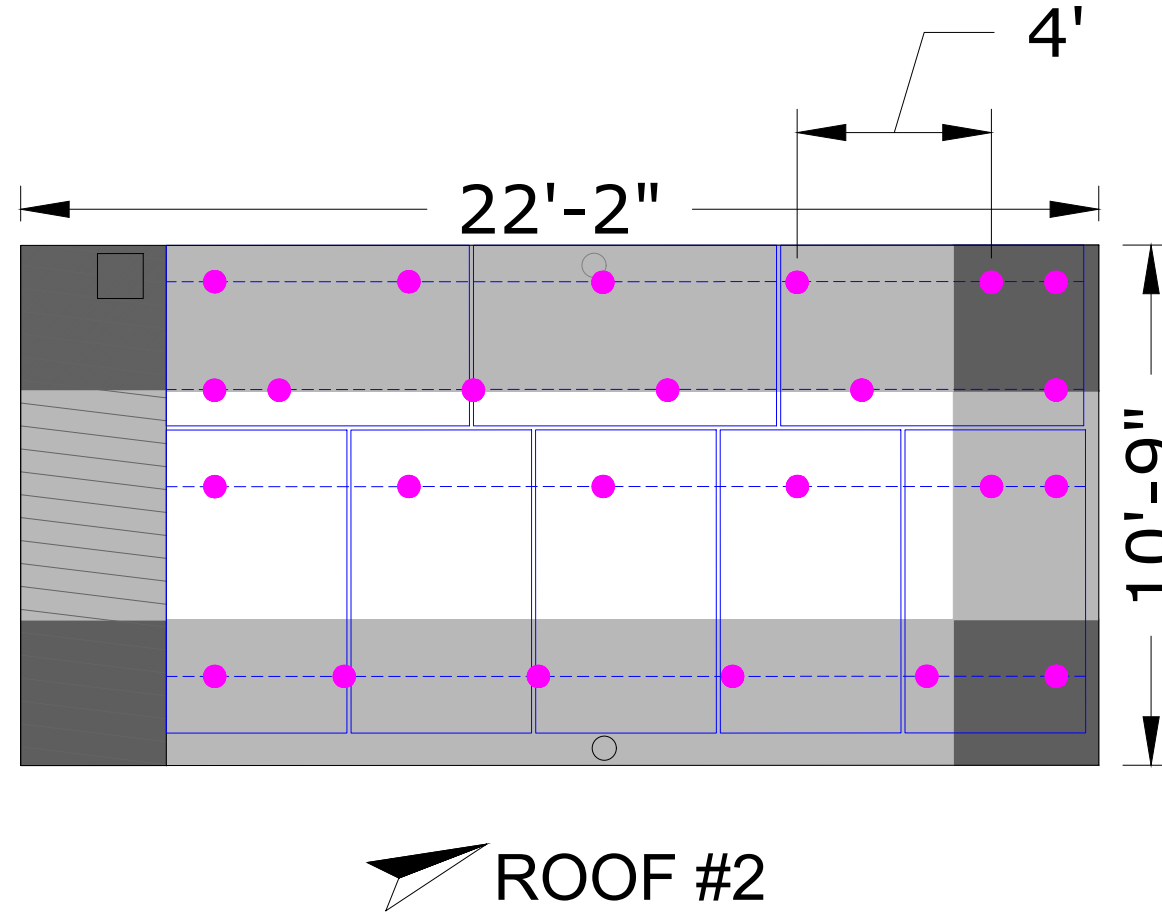
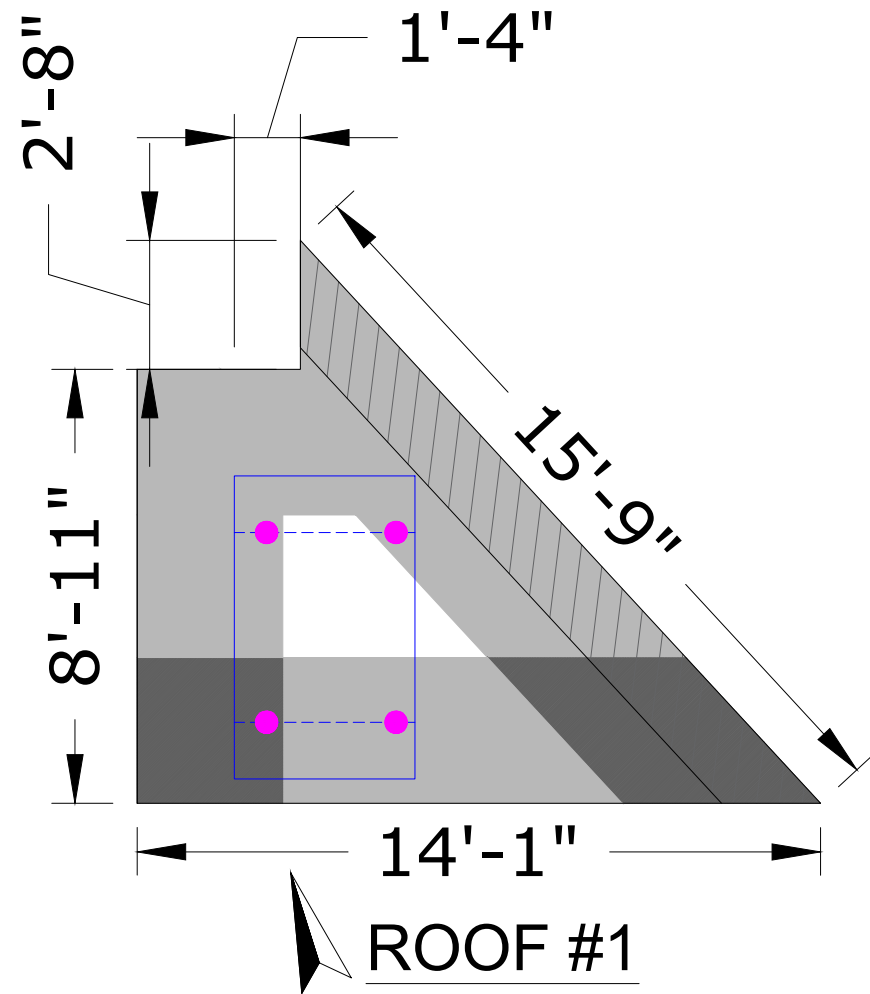
PERMIT DEVELOPER	
DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME
ROOF PLAN & MODULES

SHEET NUMBER
A-01

ROOF DESCRIPTION:

(ROOF #1)	(ROOF #2)
MODULES - 01	MODULES -08
ROOF TILT - 12°	ROOF TILT - 9°
ROOF AZIMUTH - 210°	ROOF AZIMUTH - 120°
TRUSSES SIZE - 2"x6"@ 16"O.C.	TRUSSES SIZE - 2"x6"@ 16"O.C.



APPROVED
Montgomery County
Historic Preservation Commission

REVIEWED
By Rebecca Ballo at 3:11 pm, Apr 02, 2024

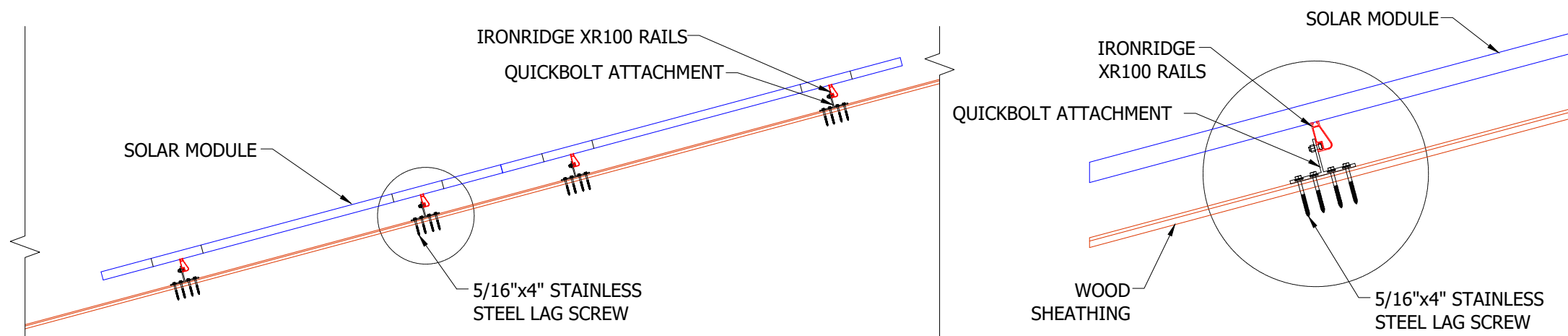
NOVA Solar
NOVA SOLAR, INC.
3305 DYE DR, FALLS CHURCH,
VA 22042

Signature with Seal

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 56915 EXPIRATION DATE: 12/16/2024

Signed: 03/13/2024

HANS RIERER
7701 TAKOMA AVE,
TAKOMA PARK, MD 20912



STRUCTURAL DETAILS

- LEGENDS**
- □ - VENT, ATTIC FAN (ROOF OBSTRUCTION)
 - - PV ROOF ATTACHMENT
 - - - - RAILS
 - — — — RAFTERS / TRUSSES
 - — — — METAL SEAM
 - - WIND ZONE I
 - - WIND ZONE II
 - - WIND ZONE III

Green World Renewable Energy
Clean, Safe, Renewable

4408, RICKIE HWY, BALTIMORE, MD 21225, USA.

PERMIT DEVELOPER

DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME

ATTACHMENT DETAILS

SHEET NUMBER

S-01

DNA™ 144

Solar for Innovators

Residential | Commercial



Designed & Engineered in Silicon Valley 440W | 435W | 430W

Our DNA™ Split Cell Series impressively combines advanced solar technologies to maximize performance. Our patented Dual Nano Absorber (DNA™) Technology allows the panel to operate at high-efficiencies in extreme temperatures. Contact our sales team today to learn more about our line of high-efficiently solar panels.

Patented DNA™ technology boosts power performance & module efficiency

Advanced split cell technology with 9 ultra-thin busbars allows for less resistance and more photon capture

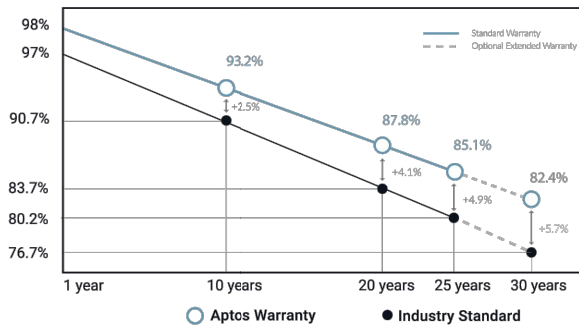
Ideal solution for applications affected by shading

All-black design for pristine aesthetics
No excessive silver bussing or ribbons

Robust product design is resilient in extreme weather. Up to 5400 Pa snow load and 210 mph wind speeds



Linear Performance Warranty



30 Year Warranty

3X IEC Standards

RETc Top Performer



3140 De La Cruz Blvd., Ste 200
Santa Clara, CA 95054
www.aptosolar.com
info@aptossolar.com

DNA™ 144

Solar for Innovators



APPROVED
Montgomery County
Historic Preservation Commission
[Signature]

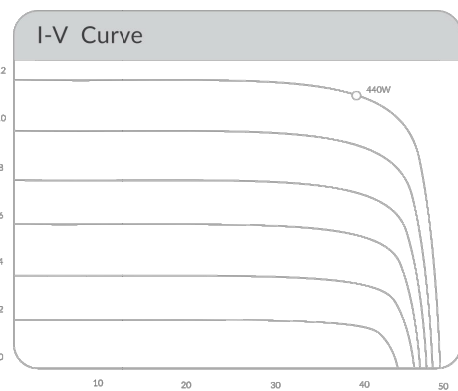
REVIEWED
By: [Name] Date: 5/11/2024

Electrical Specifications	DNA-144-MF26-440W	DNA-144-MF26-435W	DNA-144-MF26-430W
STCrated Output P _{mp} (W)	440W	435W	430W
Module Efficiency	20.21%	19.98%	19.76%
Open Circuit Voltage V _{oc} (V)	49.9	49.7	49.5
Short Circuit Current I _{sc} (A)	11.33	11.26	11.19
Rated Voltage V _{mp} (V)	41.0	40.8	40.6
Rated Voltage I _{mp} (A)	10.74	10.57	10.60

Standard Test Conditions for front-face of panel: 1000 W/m², 25°C, measurement uncertainty ≤3%

Mechanical Properties	
Cell Type	Monocrystalline
Glass	3.2mm, anti-reflection coating, high transmission, low iron, tempered glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68
Dimensions	2095 X 1039 X 40mm
Output Cable	4mm ² (EU)12AWG,39.37in.(1200mm)
Weight	53.13lbs.(24.1kg)
Cable Length	1200mm
Encapsulant	POE

Temperature Coefficients	
Temperature Coefficients P _{mp}	-0.36%
Temperature Coefficients I _{sc}	+0.05%/°C
Temperature Coefficients V _{oc}	-0.29%/°C
Normal Operating Cell Temperature (NOCT)	44°C



Test Operating Conditions	
Maximum Series Fuse	20A
Maximum System Voltage	1,000 VDC (UL&IEC)
Maximum Load Capacity (Per UL 1703)	5400 PA Snow Load / 210mph Wind Rating
Fire Performance Class	Class C/Type 1

Packaging Configuration	
Number of Modules per Pallet	27
Number of Pallets per 40ft. Container	22
Pallet Dimensions	2110 X 1120 X 2365
Pallet Weight (kg)	680
Container Weight (kg)	14960

Certifications

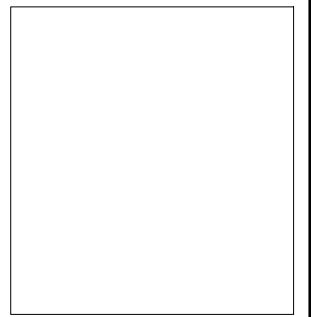
UL61730-1, UL61730-2

Aptos Solar Technology reserves the right to make specification changes without notice

Nova Solar
NOVA SOLAR, INC.
3305 DYE DR, FALLS CHURCH,
VA 22042

Signature with Seal

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TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
MD 21225, USA.

PERMIT DEVELOPER	
DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME
MODULE DATASHEET

SHEET NUMBER
DS-01



DATA SHEET



IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

© 2022 Enphase Energy. All rights reserved. Enphase, the Enphase logo, IQ8 Microinverters, and other names are trademarks of Enphase Energy, Inc. Data subject to change.

IQ8SP-DS-0002-01-EN-US-2022-03-17

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

* Only when installed with IQ System Controller 2, meets UL 1741.

** IQ8 and IQ8Plus supports split phase, 240V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings ¹	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current ² [module Isc]	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range ³	V	240 / 211 – 264	
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	50 – 68	
AC short circuit fault current over 3 cycles	A _{rms}	2	
Max units per 20 A (L-L) branch circuit ⁴		16	13
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01	

(1) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility>
 (2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2022-03-17

APPROVED
 Montgomery County
 Historic Preservation Commission

REVIEWED
 By Rebecca Ballis at 3:11 pm, Apr 02, 2024

Nova Solar
 NOVA SOLAR, INC.
 3305 DYE DR, FALLS CHURCH,
 VA 22042

Signature with Seal

HANS RIEMER
 7701 TAKOMA AVE,
 TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
 MD 21225, USA.

PERMIT DEVELOPER	
DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME
INVERTER DATASHEET

SHEET NUMBER
DS-02

RSTC Enterprises, Inc.
 2214 Heimstead Road
 Eau Claire, WI 54703
 715-830-9997



Outdoor Photovoltaic Enclosures

Composition/Cedar Roof System

ETL listed and labeled

Report # 3171411PRT-002 Revised May, 2018

- UL50 Type 3R, 11 Edition Electrical equipment enclosures
- CSA C22.2 No. 290 Nema Type 3R
- Conforms to UL 1741 Standard

0799 Series Includes:

- 0799 - 2 Wire size 2/0-14
- 0799 - 5 Wire size 14-6
- 0799 - D Wire size 14-8

Models available in Grey, Black or Stainless Steel

Basic Specifications

Material options:

- Powder coated, 18 gauge galvanized 90 steel (1,100 hours salt spray)
- Stainless steel

Process - Seamless draw (stamped)
 Flashing - 15.25" x 17.25"
 Height - 3"
 Cavity - 255 Cubic inches

Base Plate:

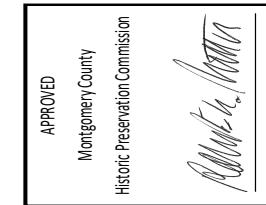
- Fastened to base using toggle fastening system
- 5 roof deck knockouts
- Knockout sizes: (3) .5", (1) .75" and (1) 1"
- 8", 35mm slotted din rail
- Ground Block

Passthrough and combiner kits are available for either AC or DC applications.

0799 Series



REVIEWED
 By Rebecca Ballo at 3:11 pm, Apr 02, 2024



REVIEWED
 By Rebecca Ballo at 3:11 pm, Apr 02, 2024



NOVA SOLAR, INC.
 3305 DYE DR, FALLS CHURCH,
 VA 22042

Signature with Seal

HANS RIEMER

7701 TAKOMA AVE,
 TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
 MD 21225, USA.

PERMIT DEVELOPER	
DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME
JUNCTION BOX DATASHEET

SHEET NUMBER
DS-03

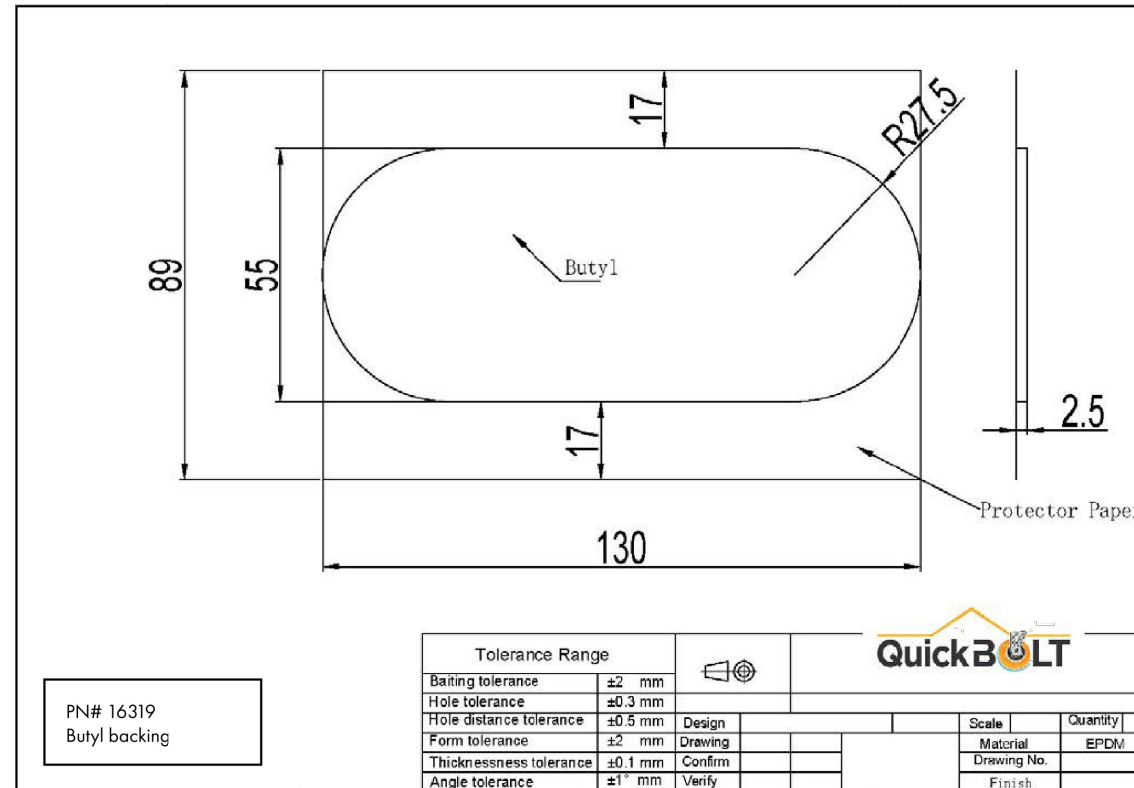
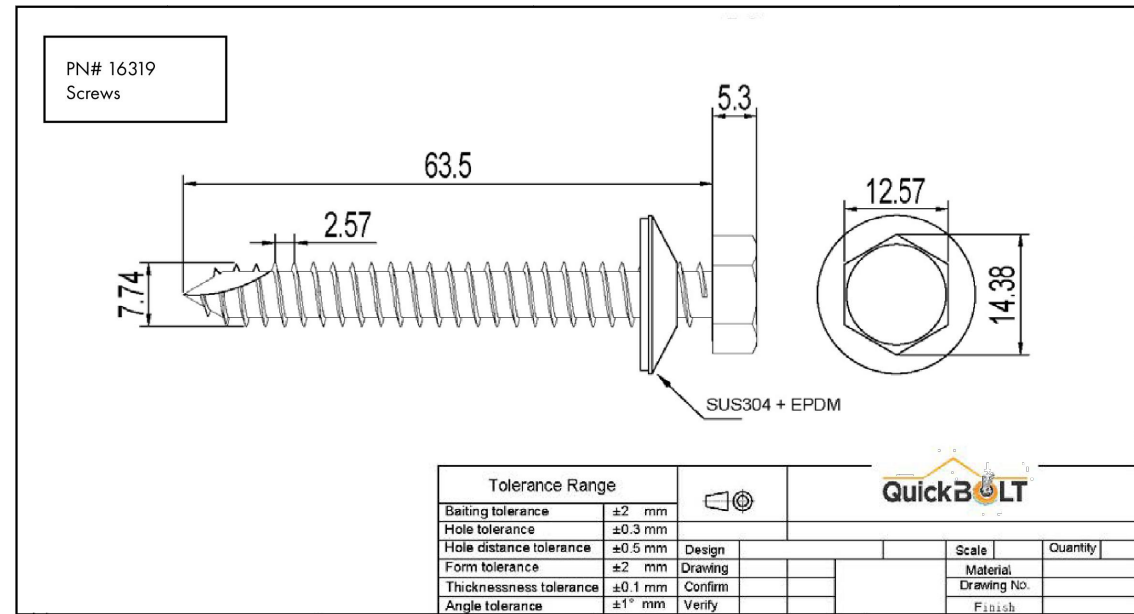
SPEC SHEET

Part #	Box Quantity
16319	36 Mounts + 144 Screws w/ EPDM Washers



APPROVED
 Montgomery County
 Historic Preservation Commission

REVIEWED
 By Rebecca Ballo at 3:11 pm, Apr 05, 2024



Nova Solar

NOVA SOLAR, INC.
 3305 DYE DR, FALLS CHURCH,
 VA 22042

Signature with Seal

HANS RIEMER

7701 TAKOMA AVE,
 TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
 MD 21225, USA.

PERMIT DEVELOPER	
DATE	03/12/2024
DESIGNER	OAM
REVIEWER	

SHEET NAME
ATTACHMENT DATASHEET

SHEET NUMBER
DS-04



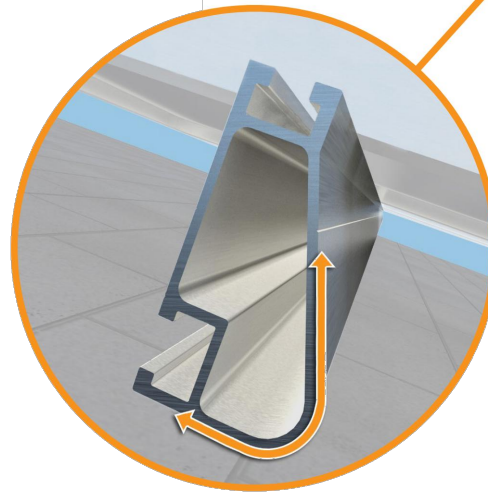
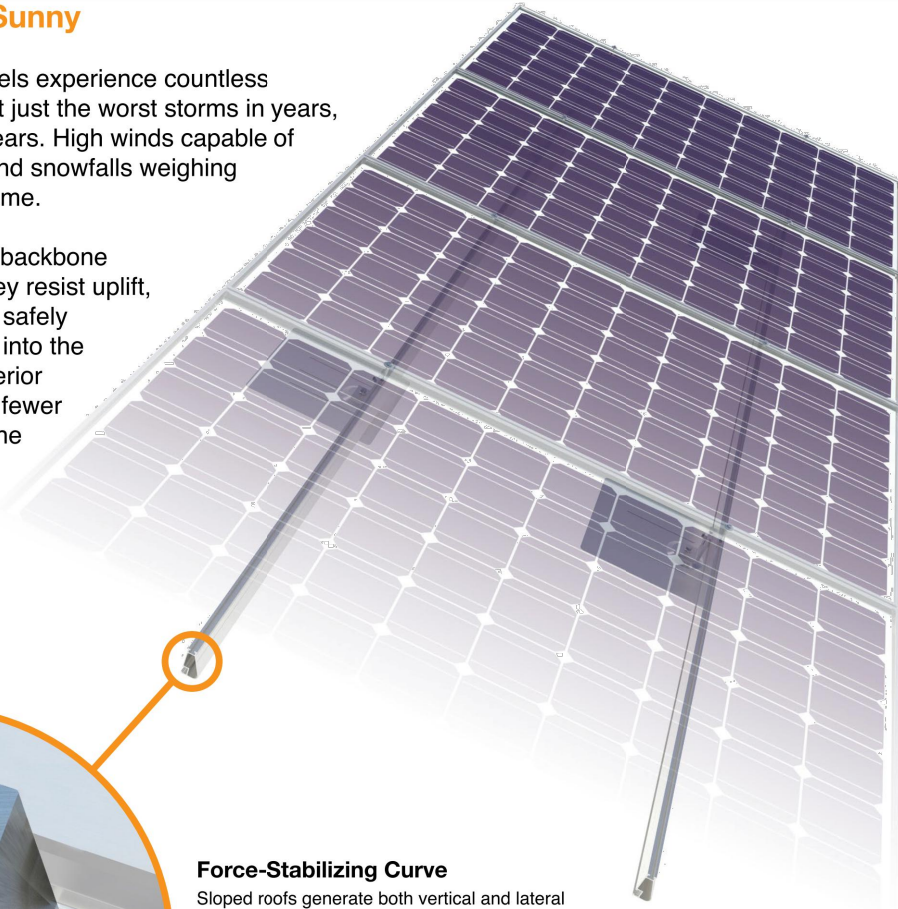
XR Rail® Family

Tech Brief

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs



XR Rails® are compatible with FlashFoot® and other pitched roof attachments.



IronRidge® offers a range of tilt leg options for flat roof mounting applications.

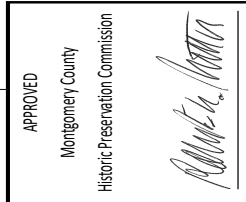
Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



REVIEWED

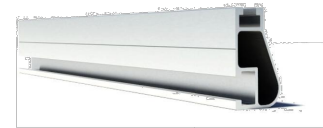
By *Rebeccah Ballo* at 3:11 pm, Apr 02, 2024



Tech Brief

XR Rail® Family

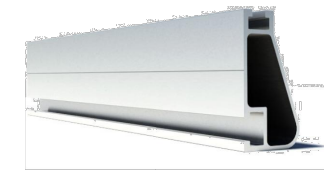
The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.



XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available



XR100

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90						
	120						
	140	XR10		XR100		XR1000	
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.



NOVA SOLAR, INC.
3305 DYE DR, FALLS CHURCH,
VA 22042

Signature with Seal

HANS RIEMER

7701 TAKOMA AVE,
TAKOMA PARK, MD 20912



4408, RICKIE HWY, BALTIMORE,
MD 21225, USA.

PERMIT DEVELOPER

DATE 03/12/2024

DESIGNER OAM

REVIEWER

SHEET NAME

RACKING
DATASHEET

SHEET NUMBER

DS-05

Product data sheet

Characteristics

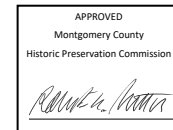
D222NRB

Safety switch, general duty, fusible, 60A, 2 poles, 15 hp, 120 VAC, NEMA 3R, bolt-on provision, neutral factory installed

Product availability : Stock - Normally stocked in distribution facility



Price* : 326.00 USD



REVIEWED

By Rebecca Ballo at 3:13 pm, Apr 02, 2024

Main

Product	Single Throw Safety Switch
Current Rating	60 A
Certifications	UL listed file E2875
Enclosure Rating	NEMA 3R
Disconnect Type	Fusible disconnect switch
Factory Installed Neutral	Neutral (factory installed)
Short Circuit Current Rating	100 kA maximum depending on fuse H, K or R
Mounting Type	Surface
Number of Poles	2
Electrical Connection	Lugs
Duty Rating	General duty
Voltage Rating	240 V AC
Wire Size	AWG 12...AWG 3 aluminium AWG 14...AWG 3 copper

Complementary

Maximum Horse Power Rating	1.5 hp 120 V AC 60 Hz 1 phase NEC 240.6 3 hp 120 V AC 60 Hz 3 phase NEC 430.52 3 hp 240 V AC 60 Hz 1 phase NEC 240.6 7.5 hp 240 V AC 60 Hz 3 phase NEC 240.6 10 hp 240 V AC 60 Hz 1 phase NEC 430.52 15 hp 240 V AC 60 Hz 3 phase NEC 430.52
Maximum Width	7.45 in (189.23 mm)
Height	14.88 in (377.95 mm)
Maximum Depth	4.87 in (123.70 mm)

* Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Tightening torque	35 lbf.in (3.95 N.m) 0.00...0.01 in ² (2.08...5.26 mm ²) AWG 14...AWG 10) 35 lbf.in (3.95 N.m) AWG 14...AWG 10) 45 lbf.in (5.08 N.m) 0.01 in ² (8.37 mm ²) AWG 8) 45 lbf.in (5.08 N.m) 0.02...0.03 in ² (12.3...21.12 mm ²) AWG 6...AWG 4) 50 lbf.in (5.65 N.m) 0.04 in ² (26.67 mm ²) AWG 3)
-------------------	---

Ordering and shipping details

Category	00106 - D & DU SW,NEMA3R, 30-200A
Discount Schedule	DE1A
GTIN	00785901460640
Nbr. of units in pkg.	1
Package weight(Lbs)	8.25 lb(US) (3.74 kg)
Returnability	Yes
Country of origin	US

Packing Units

Unit Type of Package 1	PCE
Package 1 Height	5.20 in (13.208 cm)
Package 1 width	7.70 in (19.558 cm)
Package 1 Length	16.20 in (41.148 cm)
Unit Type of Package 2	PAL
Number of Units in Package 2	120
Package 2 Weight	1022.00 lb(US) (463.571 kg)
Package 2 Height	45.00 in (114.3 cm)
Package 2 width	40.00 in (101.6 cm)
Package 2 Length	48.00 in (121.92 cm)

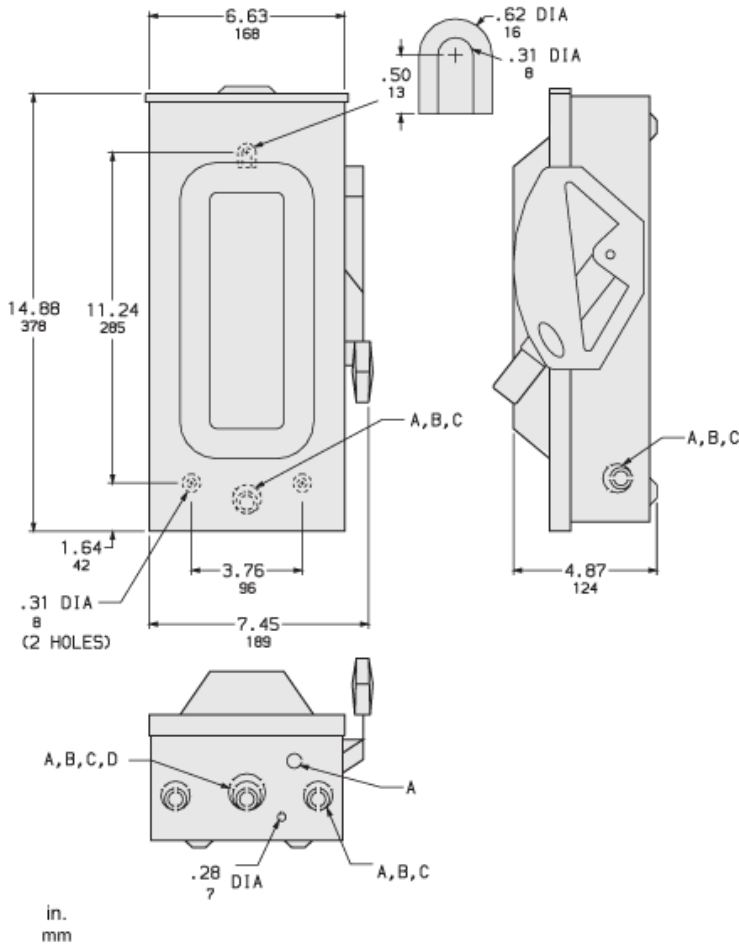
Offer Sustainability

Sustainable offer status	Green Premium product
REACH free of SVHC	Yes
EU RoHS Directive	Compliant EU RoHS Declaration
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	China RoHS declaration Product out of China RoHS scope. Substance declaration for your information.
Environmental Disclosure	Product Environmental Profile
PVC free	Yes

Contractual warranty

Warranty	18 months
----------	-----------

Approximate Dimensions



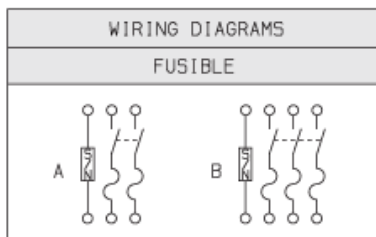
KNOCKOUTS				
SYMBOL	CONDUIT SIZE		DIAMETER	
	IN	MM	IN	MM
A	.50	13	.88	22
B	.75	19	1.13	29
C	1.00	25	1.38	35
D	1.25	32	1.75	45

APPROVED
Montgomery County
Historic Preservation Commission



REVIEWED
By Rebecca Ballo at 3:10 pm, Apr 02, 2024

Connections and Wiring Diagrams



TERMINAL LUGS †			
AMPERES	MAX. WIRE	MIN. WIRE	TYPE
60	# 3 AWG	# 14 AWG	CU OR AL

† LUGS SUITABLE FOR 60°C OR 75°C CONDUCTORS.

CATALOG NUMBER	VOLTAGE RATINGS	WIRING DIAG.	AMPERE RATING	HORSEPOWER RATINGS			
				240VAC			
				STD.		MAX.	
				1 Ø	3 Ø	1 Ø	3 Ø
D222NRB	240VAC	A	60	3	7.50 ●	10	15 ●
D322NRB	240VAC	B	60	3 ✱	7.50	10	15

✱ USE OUTER SWITCHING POLES.

● FOR CORNER GROUNDED DELTA SYSTEMS ONLY.



CERTIFICATE OF COMPLIANCE

CERTIFICATE NUMBER: 101000-E2875G

ISSUE DATE: October 10, 2000

Page 1 of 3

Issued to: Square D Company
1601 Mercer Road
Lexington, KY. 40511 USA

Report Reference: E2875, July 6, 1990


This is to Certify that
representative samples of: Enclosed switches, types D222 & D322, suitable for use as service
equipment. Catalog numbers may have suffix letters.

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s)
indicated on this Certificate.


Standard(s) for Safety: UL 98, Enclosed Switches

Additional Information: See Addendum

Only those products bearing the UL Listing Mark should be considered as being covered by
UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control
number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate
UL Directory.

LOOK FOR THE UL LISTING MARK ON THE PRODUCT

Engineer: 
Tom Skibbs
Underwriters Laboratories Inc.

Review Engineer: 
Jake Killinger
Underwriters Laboratories Inc.



CERTIFICATE OF COMPLIANCE - ADDENDUM

CERTIFICATE NUMBER: 101000-E2875G
ISSUE DATE: October 10, 2000

Page 2 of 3

This is to verify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

RATINGS


Current - 60 A maximum
Voltage - 240 V ac maximum


Short Circuit

When used with Class R fuses with Kit No. HRK30H properly installed, fusible switches are suitable for use on circuits capable of delivering not more than 100,000 rms symmetrical amperes.

When used with Class H or K fuses, fusible switches are suitable for use on circuits capable of delivering not more than 10,000 symmetrical amperes.

Unfused switches are suitable for use on circuits capable of delivering not more than
(A) 10,000 rms symmetrical amperes when protected by Class H or K fuses or
(B) 100,000 rms symmetrical amperes when protected by Class J, T, or R fuses.

Engineer: 
Tom Skibbs
Underwriters Laboratories Inc.

Review Engineer: 
Jake Killinger
Underwriters Laboratories Inc.



CERTIFICATE OF COMPLIANCE - ADDENDUM

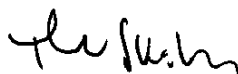
CERTIFICATE NUMBER: 101000-E2875G
ISSUE DATE: October 10, 2000


Page 3 of 3

This is to verify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Horespower Ratings (* indicates grounded B phase, 2-pole with neutral)

<u>Cat. No.</u>	<u>Phases</u>	<u>Standard</u>	<u>Maximum</u>
D222	1	3	10
D322	1	3	10
D222	3	7.5*	15
D322	3	7.5	15

Engineer: 
Tom Skibbs
Underwriters Laboratories Inc.

Review Engineer: 
Jake Killinger
Underwriters Laboratories Inc.

ENGINEERING SPECIFICATIONS

Standards

Underwriters Laboratories Standard UL-44, UL-1277, UL-1581, UL-1685, UL-2556; ASTM Stranding Class B3, B8, B787; Federal Specification A-A-59544, NEMA WC-70/IECE S-95-658; NFPA 70 (NEC®) Article 336, 392; UL-1685 Method 1 (70,000 Btu/hr) Flame Test; NEMA WC 57/IECE S-73-532; IECE T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; IEEE 1202 (FT4) optional. UL Listing #E-179429



Listed E-179429

CONSTRUCTION

Conductors

Bare, soft-annealed stranded copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

Insulation

Cross-linked polyethylene (XLPE) High Heat Water Resistant. Rated for use in wet or dry locations at temperatures not to exceed 90°C dry or wet to meet UL-44 requirements for type XHHW-2 wire. Suitable for use in low-leaking circuits requiring a dielectric constant of 3.5 or less.

Ground Conductor

XLPE insulated green ground

Assembly

The insulated conductors are cabled together with a green insulated ground and with or without fillers as required to form a round compact core. Nylon rip-cord is supplied for easy stripping.

Color Coding

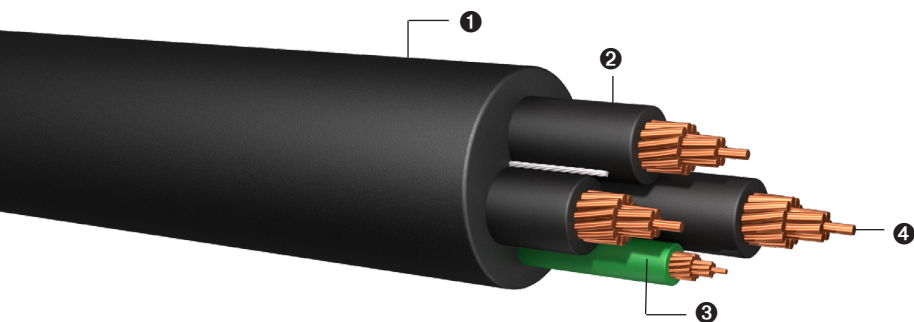
Black insulation with IECE Method 4 printed number

Overall Jacket

Flame retardant, sunlight-resistant, black PVC jacket. Sunlight-resistant overall jacket available in all colors by request. Also available in chlorinated polyethylene jacket (CPE) by request.

APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. Cables constructed and listed for applications requiring TC-ER-JP rating. Approved for Class I Division II Hazardous Locations.



- ① PVC Jacket
- ② XLPE Insulation
- ③ Green Insulated Grounding Conductor
- ④ XHHW-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors		Size of Ground Wire (AWG)	Outside Jacket Thickness PVC (in)		Allowable Ampacity (Amps) ¹			Outside Diameter (in)		Approximate Net Weight (lbs/1000 ft)		Standard Packaging (ft)
				3	4	60°C	75°C	90°C	3	4	3	4	
8	3	4	10 AWG Green Insulated	0.060	0.060	40	50	55	0.660	0.705	318	388	1000' 5000' Reels
6	3	4	8 AWG Green Insulated	0.060	0.060	55	65	75	0.740	0.810	455	561	1000' 4000' Reels
4	3	4	8 AWG Green Insulated	0.080	0.080	70	85	95	0.930	1.080	707	903	1000' 3000' Reels
2	3	4	6 AWG Green Insulated	0.080	0.080	85	115	130	1.058	1.165	1032	1290	1000' 2000' Reels
1	3	4	6 AWG Green Insulated	0.080	0.080	95	130	145	1.185	1.308	1206	1645	1000' 2000' Reels
1/0	3	4	6 AWG Green Insulated	0.080	0.080	110	150	170	1.275	1.405	1520	1934	1000' 2000' Reels
2/0	3	4	6 AWG Green Insulated	0.080	0.080	125	175	195	1.378	1.518	1834	2429	500' 1000' 2000' Reels
3/0	3	4	4 AWG Green Insulated	0.080	0.080	145	200	225	1.488	1.638	2252	2882	1000' 2000' Reels
4/0	3	4	4 AWG Green Insulated	0.080	0.080	165	230	260	1.608	1.758	2743	3552	1000' 1500' Reels

¹ Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes.

When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

8 AWG THROUGH 4/0 AWG ARE 19 STRANDS PER CONDUCTOR

PRINT LEGEND: ENCORE WIRE CORPORATION (size) TYPE TC-ER-JP CABLE XHHW-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

TYPE TC - POWER CABLE - W/ INSULATED GROUND

XHHW-2 INNERS

ENGINEERING SPECIFICATIONS

Standards

Underwriters Laboratories Standard UL-44, UL-1277, UL-1581, UL-1685, UL-2556; ASTM Stranding Class B3, B8, B787; Federal Specification A-A-59544, NEMA WC-70/ICEA S-95-658; NFPA 70 (NEC®) Article 336, 392; UL-1685 Method 1 (70,000 Btu/hr) Flame Test; NEMA WC 57/ICEA S-73-532; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; IEEE 1202 (FT4) optional. UL Listing #E-179429



Listed E-179429

CONSTRUCTION

Conductors

Bare, soft-annealed stranded copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

Insulation

Cross-linked polyethylene (XLPE) High Heat Water Resistant. Rated for continuous use in wet or dry locations at temperatures not to exceed 90°C dry or wet to meet UL-44 requirements for type XHHW-2 wire. Suitable for use in low-leaking circuits requiring a dielectric constant of 3.5 or less.

Ground Conductor

XLPE insulated green ground

Assembly

The insulated conductors are cabled together with a green insulated ground and with or without fillers as required to form a round compact core. Nylon rip-cord is supplied for easy stripping.

Color Coding

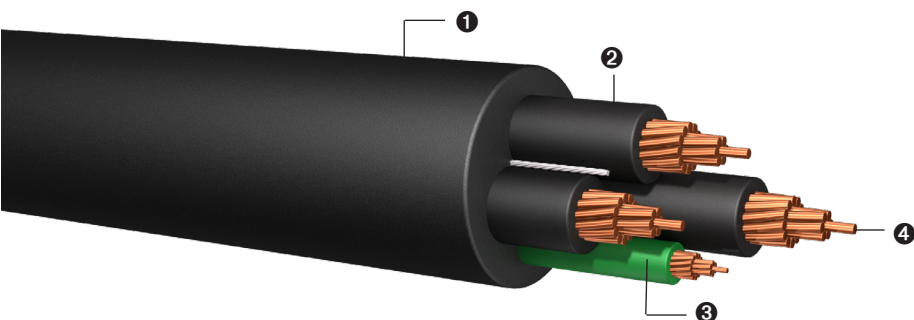
Black insulation with ICEA Method 4 printed number

Overall Jacket

Flame retardant, sunlight-resistant, black PVC jacket. Sunlight-resistant overall jacket available in all colors by request. Also available in chlorinated polyethylene jacket (CPE) by request.

APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and conduits. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. Cables constructed and listed for applications requiring TC-ER-JP rating. Approved for Class I Division II Hazardous Locations.



- ① PVC Jacket
- ② XLPE Insulation
- ③ Green Insulated Grounding Conductor
- ④ XHHW-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors		Size of Ground Wire (AWG)	Outside Jacket Thickness PVC (in)		Allowable Ampacity (Amps) ¹			Outside Diameter (in)		Approximate Net Weight (lbs/1000 ft)		Standard Packaging (ft)
				3	4	60°C	75°C	90°C	3	4	3	4	
250	3	4	4	0.080	0.080	215	255	290	1.782	1.974	3158	3994	1000' 1500' Reels
300	3	4	3	0.110	0.110	240	285	320	1.968	2.156	3843	4846	1000' 1500' Reels
350	3	4	3	0.110	0.110	260	310	350	2.081	2.302	4320	5565	1000' 1500' Reels
400	3	4	3	0.110	0.110	280	335	380	2.187	2.421	4857	6288	1000' 1500' Reels
500	3	4	2	0.110	0.110	320	380	430	2.383	2.639	5958	7590	1000' 1500' Reels
600	3	4	2	0.110	0.110	350	420	475	2.697	2.990	7358	9378	1000' 1500' Reels
750	3	4	1	0.110	0.110	400	475	535	3.015	3.347	8752	11307	1000' 1500' Reels

¹ Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes.

When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND: ENCORE WIRE CORPORATION (size) TYPE TC-ER-JP CABLE XHHW-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

ENGINEERING SPECIFICATIONS

Standards

Underwriters Laboratories Standard UL-83, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

CONSTRUCTION

Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for continuous use at 90°C dry or wet to meet UL-83 requirements for type THHN or THWN-2 wire.

Overall Jacket

Flame retardant, sunlight-resistant, black PVC jacket. Sunlight-resistant overall jacket available in all colors by request.

Ground Conductor

Insulated green ground

Assembly

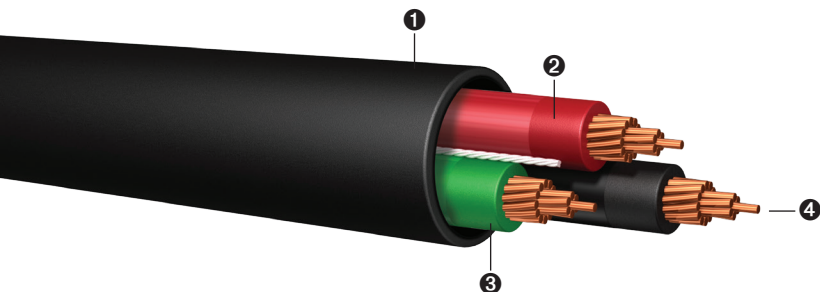
The insulated conductors are cabled together with a green insulated ground, and with or without fillers as required to form a round compact core. Nylon rip-cord is supplied for easy stripping.

Color Coding

Color-coded insulation with ICEA Method 1

APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where a sunlight-resistant rating is required. Cable constructed and listed for applications requiring TC-ER-JP rating. Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 PVC Insulation w/ Nylon Jacket
- 3 Green Insulated Grounding Conductor
- 4 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	Size of Ground Wire (AWG)	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) ¹			Standard Packaging (ft)
					60°C	75°C	90°C	
14/2	14 AWG Green Insulated	0.045	0.350	79	15	20	25	1000' 5000' Reels
14/3	14 AWG Green Insulated	0.045	0.380	99	15	20	25	1000' 5000' Reels
14/4	14 AWG Green Insulated	0.045	0.413	118	15	20	25	1000' 5000' Reels
12/2	12 AWG Green Insulated	0.045	0.390	101	20	25	30	1000' 5000' Reels
12/3	12 AWG Green Insulated	0.045	0.420	130	20	25	30	1000' 5000' Reels
10/2	10 AWG Green Insulated	0.045	0.460	152	30	35	40	1000' 5000' Reels
10/3	10 AWG Green Insulated	0.045	0.500	207	30	35	40	1000' 5000' Reels

¹ Ampacity of conductors are based on NFPA 70 (NEC) Section 402.5. See 310.15(B)(16), 110.14(C) and 240.4(D) for other limitations where applicable.

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes.

When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

The above data is approximate and subject to normal manufacturing tolerances.

PRINT LEGEND: ENCORE WIRE CORPORATION (size) W/G TYPE TC-ER-JP CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC















REVIEWED

By Rebecca Ballo at 3:10 pm, Apr 02, 2024

APPROVED

Montgomery County

Historic Preservation Commission