To Whom It Concern:

Subject: Building Permit Application, Solar Panel Installation 99.62 kW

MidWest Karting / Debbie Hill

2911 NE Independence Ave

Lee's Summit MO, 64064

Project: Installation of 229 solar panels. Two arrays will be mounted and secured using DYNORAXX ballasted racking system using 2 leg baskets (29) and 4 leg Baskets (247) one array will be 43.07 kW and one array will be 56.55 kW

The output from the panels is run in conduit to the existing meter servicing the Building. The inverters are located as shown on the electrical layout drawings. The details of the attachments, inverters, solar panels, and ballasted attachments is shown on the drawings. The electrical one-line drawing provides the details of the electrical connections:

Design Information: The following design components were used for this roof mount system:

- Wind Speed----120 mph
- Snow Load----20 psf
- Racking---- DYNORAXX EVOLTION which meet ASCE 07 Building Code.
 Typical details are contained in the drawings.
- Uplift forces are less than 300#, weight distribution is 5.22 psf in the solar footprint.
- Electrical Components meets 2017 NEC Criteria and Installation Guidelines.

NUMBER

- Solar Panels SUNPOWER E-SERIES COMMERCIAL PANELS 435W (229)
- Inverters- SMA STP 50-US-41 (2)

I certify that the existing roof of the structure is adequate to handle the solar panel loading and their installation follows Section R301 of the 2018 International Residential Code. The panels are anchored on racking at a spacing not to exceed 4 Feet.

Billy Arthur

MO-PE 017508

SHOP / WAREHOUSE PAGE

PROJECT COORDINATOR

INSTALLERS





CONTRACTOR

SUN SOLAR, LLC

2 ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD,MO 65803

PHONE: 417-413-1786

LIC. NO.: HIC. NO.: ELE. NO.:

UNAUTHORIZED USE OF THIS
DRAWING SET WITHOUT WRITTEN
PERMISSION FROM CONTRACTOR IS IN
VIOLATION OF U.S. COPYRIGHT LAWS
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DAMAGES AND PROSECUTIONS,

NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE. LEE'S SUMMER NO. 64064

PROJECTM 8663

S ENGINEER OF BECORD

ARTHUR

NUMBER PE-017508

A AND IN

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

GENERAL NOTES

1.1.1 PROJECT NOTES:

1.1.2 THIS PHOTOVOLTAIC (PV) SYSTEM SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (NEC) ARTICLE 690, ALL MANUFACTURERS'S LISTING AND INSTALLATION INSTRUCTIONS, AND THE RELEVANT CODES AS SPECIFIED BY THE AUTHORITY HAVING JURISDICTION'S (AHJ) APPLICABLE CODES.

1.1.3 THE UTILITY INTERCONNECTION APPLICATION MUST BE APPROVED AND PV SYSTEM INSPECTED PRIOR TO PARALLEL OPERATION

1.1.4 ALL PV SYSTEM COMPONENTS; MODULES, UTILITY-INTERACTIVE INVERTERS, AND SOURCE CIRCUIT COMBINER BOXES ARE IDENTIFIED AND LISTED FOR USE IN PHOTOVOLTAIC SYSTEMS AS REQUIRED BY NEC 690.4: PV MODULES: UL1703, IEC61730, AND IEC61215, AND NFPA 70 CLASS C FIRE INVERTERS: UL 1741 CERTIFIED, IEEE 1547, 929, 519 COMBINER BOX(ES): UL 1703 OR UL 1741 ACCESSORY

1.1.5 MAX DC VOLTAGE CALCULATED USING MANUFACTURER PROVIDED TEMP COEFFICIENT FOR VOC. IF UNAVAILABLE, MAX DC VOLTAGE CALCULATED ACCORDING TO NEC 690.7.

1.1.6 ALL INVERTERS, PHOTOVOLTAIC MODULES, PHOTOVOLTAIC PANELS, AND SOURCE CIRCUIT COMBINERS INTENDED FOR USE IN A PHOTOVOLTAIC POWER SYSTEM WILL BE IDENTIFIED AND LISTED FOR THE APPLICATION PER 690.4 (D). SHALL BE INSTALLED ACCORDING TO ANY INSTRUCTIONS FROM LISTING

1.1.7 ALL SIGNAGE TO BE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE. IF EXPOSED TO SUNLIGHT, IT SHALL BE UV RESISTANT. ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS REQUIRED BY THE NEC AND AHJ.

1.2.1 SCOPE OF WORK

1.2.2 PRIME CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND SPECIFICATIONS OF THE GRID-TIED PHOTOVOLTAIC SYSTEM RETROFIT. PRIME CONTRACTOR WILL BE RESPONSIBLE FOR COLLECTING EXISTING ONSITE REQUIREMENTS TO DESIGN, SPECIFY, AND INSTALL THE EXTERIOR ROOF-MOUNTED PORTION OF THE PHOTOVOLTAIC SYSTEMS DETAILED IN THIS DOCUMENT.

- 1.3.1 WORK INCLUDES:
- 1.3.2 PV ROOF ATTACHMENTS
- 1.3.3 PV RACKING SYSTEM INSTALLATION
- 1.3.4 PV MODULE AND INVERTER INSTALLATION
- 1.3.5 PV EQUIPMENT GROUNDING
- 1.3.6 PV SYSTEM WIRING TO A ROOF-MOUNTED JUNCTION BOX
- 137 PV LOAD CENTERS (IF INCLUDED)
- 1,3.8 PV METERING/MONITORING (IF INCLUDED)
- 1.3.9 PV DISCONNECTS
- 1,3,10 PV FINAL COMMISSIONING
- 1.3.11 (E) ELECTRICAL EQUIPMENT RETROFIT FOR PV
- 1.3.12 SIGNAGE PLACED IN ACCORDANCE WITH LOCAL BUILDING CODE

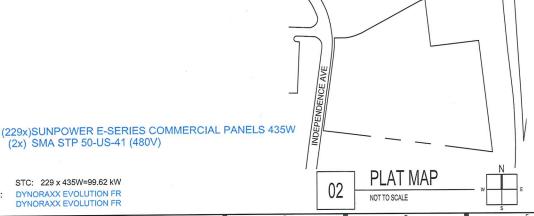
NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NF INDEPENDENCE AVE. LEE'S SUMMIT, MO. 64064 PROJECT #: 8063



AERIAL PHOTO NOT TO SCALE



SHEET LIST TABLE SHEET# SHEET TITLE COVER PAGE T-001 G-001 NOTES A-101 SITE PLAN A-102 ELECTRICAL PLAN SOLAR ATTACHMENT PLAN A-103 E-601 LINE DIAGRAM E-602 вом PLACARDS E-603 S-501 ASSEMBLY DETAILS R-001 RESOURCE DOCUMENT R-002 RESOURCE DOCUMENT RESOURCE DOCUMENT R-003 RESOURCE DOCUMENT R-004 RESOURCE DOCUMENT R-005 R-006 RESOURCE DOCUMENT R-007 RESOURCE DOCUMENT R-008 RESOURCE DOCUMENT R-009 RESOURCE DOCUMENT RESOURCE DOCUMENT R-010 RESOURCE DOCUMENT R-011

PROJECT INFORMATION

OWNER DEBBIE HILL (816)868-6025

PHONE: debbie.hill@midwestkarting.com E MAIL:

8063 PROJECT #:

DESIGNER:

PROJECT MANAGER/INSTALLER

SUN SOLAR PROJECT TEAM NAME:

MEGAN EVANS

PHONE: (417) 413-1786

AUTHORITIES HAVING JURISDICTION LEE'S SUMMIT, MO BUILDING:

LEE'S SUMMIT, MO. ZONING:

EVERGY UTILITY: 9737337540 ACCT. #:

DESIGN SPECIFICATIONS

OCCUPANCY: CONSTRUCTION: COMMERCIAL

COMMERCIAL ZONING:

GROUND SNOW LOAD: 20 PSF

WIND EXPOSURE: B WIND SPEED: 120 MPH

APPLICABLE CODES & STANDARDS

BUILDING: IBC 2018 ELECTRICAL: NEC 2017

FIRE: IFC 2018

T-001.00

UN SOLAR

CONTRACTOR

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BEENH 3053 LEE'S SUMMIT, MQ. 64064

ENGINEER OF RECORD

ARTHUR

NUMBER PE-017508

4:

STATE AND IN AND INCHES COVER PAGE

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

SPECIAL NOTE:

SCOPE OF WORK SYSTEM SIZE:

(2x) SMA STP 50-US-41 (480V)

STC: 229 x 435W=99.62 kW

ATTACHMENT TYPE: **RACKING TYPE:**

DYNORAXX EVOLUTION FR DYNORAXX EVOLUTION FR

		Α -	В		С	
	2.1.1 2.1.2		L BE IN PLACE FOR INS	SPECTION IN COM	MPLIANCE WITH OSHA	2.4.9
	2.1.3	UTILITY INTERAC	LES ARE CONSIDERED NON	RAGE BATTERIES.		2.4.10
	2.1.4	BUILDING ROOF	NSTALLATION WILL NOT OBS VENTS.			2.5.1
1	2.1.5	ELECTRICAL EQ	SS AND WORKING CLEARAI UIPMENT WILL BE PROVIDED	AS PER SECTION	NEC 110.26.	2.5.1
	2.1.6	ACCORDANCE	NGS SHALL BE DESIGN WITH THIS CODE AND SUCH THAT THE ROOF	THE APPROV	ED MANUFACTURER'S	2.5.3
		BUILDING OR ST	RUCTURE.			2.5.4
	2.2.1 2.2.2	ALL EQUIPMENT	CATIONS SHALL MEET MINIMUM SET	BACKS AS REQUIRI	ED BY NEC 110.26.	
	2.2.3	OPERATING TE 310,15 (B)(2)(A)	MS INSTALLED IN DIRECT SUMPERATURE AS SPECIFIED AND 310.15 (B)(3)(C).	BY NEC 690,31 (A	A),(C) AND NEC TABLES	2.5.5
	2.2.3	ACCORDING TO	PULL BOXES PERMITT NEC 690.34.		-	
	2.2.4	WITHIN SIGHT C	DISCONNECT(S) SHALL BE OF THE AC SERVICING DISCO IT SHALL BE INSTALLED	NNECT.		2.5.6
		ACCORDING TO	NEC APPLICABLE CODES. NTS ARE LISTED FOR THE			2.5.7
	2.2.6	USAGE WHEN A		it i biti ool iiib	101125 1 011 00150011	2.5.8
5	2.3.1 2.3.2		STEM & PV ARRAY W			2.6.1
		DESIGNATED :	ANT INSTALLATION MA SPACE BETWEEN MODUL TANCE BEYOND EITHER	ES, AND RAILS N R EDGE OF TH	LAMPS REQUIRE A MUST ALSO EXTEND A ME ARRAY/SUBARRAY,	2.6.2
	2.3.3	JUNCTION BO	O RAIL MANUFACTURER'S X WILL BE INSTALLED PE TRATING TYPE, IT SHAL	R MANUFACTURE	ERS' SPECIFICATIONS. & SEALED PER LOCAL	2.6.3
	2.3.4	REQUIREMENT ROOFTOP PE SEALED W/ CONTRACTOR	NETRATIONS FOR PV R APPROVED CHEMICA	ACEWAY WILL I	BE COMPLETED AND CODE BY A LICENSED	2.6.5
1	2.3.5	ALL PV RELAT SPAN DISTANO	ED ROOF ATTACHMENTS CE SPECIFIED BY THE RAC	CKING MANUFACT	URER.	
	2.3.6		BLE, ALL PV RELATED AMONGST THE ROOF FRA		ACHMENTS WILL BE	
=	2.4.1 2.4.2		<u>OTES:</u> YSTEM COMPONENTS SHAI EVISES EXPOSED TO THE EL			2.6.6
	2.4.3	PV SYSTEMS RI ELECTRICAL EC	EQUIRE AN EQUIPMENT G QUIPMENT AND STRUCTUR WITH 250.134 OR 250.136	AL COMPONENTS E	BONDED TO GROUND, IN	2.6.7
5	2.4.4	UNGROUNDED. PV EQUIPMENT NEC TABLE 250	SHALL BE GROUNDED ACCO	ORDING TO NEC 69	0.43 AND MINIMUM	2.6.9
	2.4.5	METAL PARTS	OF MODULE FRAMES, ROUNDED IN ACCORD WITH			2.0.5
	2.4.6	EACH MODULE MANUFACTURE NOT USED, MO	WILL BE GROUNDED USING R DOCUMENTATION AND AF DULE GROUNDING LUGS MU	G WEEB GROUNDI PPROVED BY THE A ST BE INSTALLED A	NG CLIPS AS SHOWN IN HJ. IF WEEBS ARE AT THE SPECIFIED	2.7.1 2.7.2
	1	REQUIREMENT	JG HOLES PER THE MANUFA S.			2.7.3
6	2.4.7	THE GROUNDIN THE REMOVAL ANOTHER MOD	IG CONNECTION TO A MODU OF A MODULE DOES NOT II	ILE SHALL BE ARRA NTERRUPT A GROU	ANGED SUCH THAT UNDING CONDUCTOR TO	
	2.4.8	GROUNDING AN	ND BONDING CONDUCTORS, RKED GREEN IF #4 AWG OR I			

THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 2.7.5 THROUGH 250,106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A 2.7.6 GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 2.7.7

DC PV ARRAYS SHALL BE PROVIDED WITH DC GROUND-FAULT PROTECTION MEETING THE REQUIREMENTS OF 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS

LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12 2.7.8

THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS OUTPUT MAY NOT EXCEED 120% OF BUSBAR RATING [NEC 705.12(B)(2)(3)].

THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR, PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC 705.12(B)(2)(3)]

AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR, HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12 (B)(2)(3)(C).

FEEDER TAP INTERCONECTION (LOAD SIDE) ACCORDING TO NEC 705.12 (B)(2)(1)

SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12 (A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42 BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12 (B)(5)].

DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:

DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS). DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH.

BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED. THEREFORE BOTH MUST OPEN WHERE A DISCONNECT IS REQUIRED, ACCORDING TO NEC 690.13.

ISOLATING DEVICES OR EQUIPMENT DISCONNECTING MEANS SHALL BE INSTALLED IN CIRCUITS CONNECTED TO EQUIPMENT AT A LOCATION WITHIN THE EQUIPMENT, OR WITHIN SIGHT AND WITHIN 10 FT OF THE EQUIPMENT. AN EQUIPMENT DISCONNECTING MEANS SHALL BE PERMITTED TO BE REMOTE FROM THE EQUIPMENT WHERE THE EQUIPMENT DISCONNECTING MEANS CAN BE REMOTELY OPERATED FROM WITHIN 10 FT OF THE EQUIPMENT, ACCORDING TO NEC 690.15 (A).

PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12(A) THROUGH (D)

ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9,

BOTH POSITIVE AND NEGATIVE PV CONDUCTORS ARE UNGROUNDED, THEREFORE BOTH REQUIRE OVER-CURRENT PROTECTION, ACCORDING TO NEC 240.21. (SEE EXCEPTION IN NEC 690.9)

IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL1699B.

WIRING & CONDUIT NOTES:

ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING. ALL CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7. EXPOSED PV SOURCE CIRCUITS AND OUTPUT CIRCUITS SHALL USE WIRE LISTED AND IDENTIFIED AS PHOTOVOLTAIC (PV) WIRE [690.31 (C)]. PV MODULES WIRE LEADS SHALL BE LISTED FOR USE ON PV ARRAYS. ACCORDING TO NEC 690.31 (A).

PV WIRE BLACK WIRE MAY BE FIELD-MARKED WHITE [NEC 200.6 (A)(6)]. MODULE WIRING SHALL BE LOCATED AND SECURED UNDER THE ARRAY. ACCORDING TO NEC 200.7, UNGROUNDED SYSTEMS DC CONDUCTORS COLORED OR MARKED AS FOLLOWS:

DC POSITIVE- RED, OR OTHER COLOR EXCLUDING WHITE, GREY AND

DC NEGATIVE- BLACK, OR OTHER COLOR EXCLUDING WHITE, GREY AND GREEN

AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1-BLACK

PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE PHASE C OR L3-BLUE, YELLOW, ORANGE*, OR OTHER CONVENTION NEUTRAL- WHITE OR GREY

 * IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].



CONTRACTOR

SUN SOLAR, LLC

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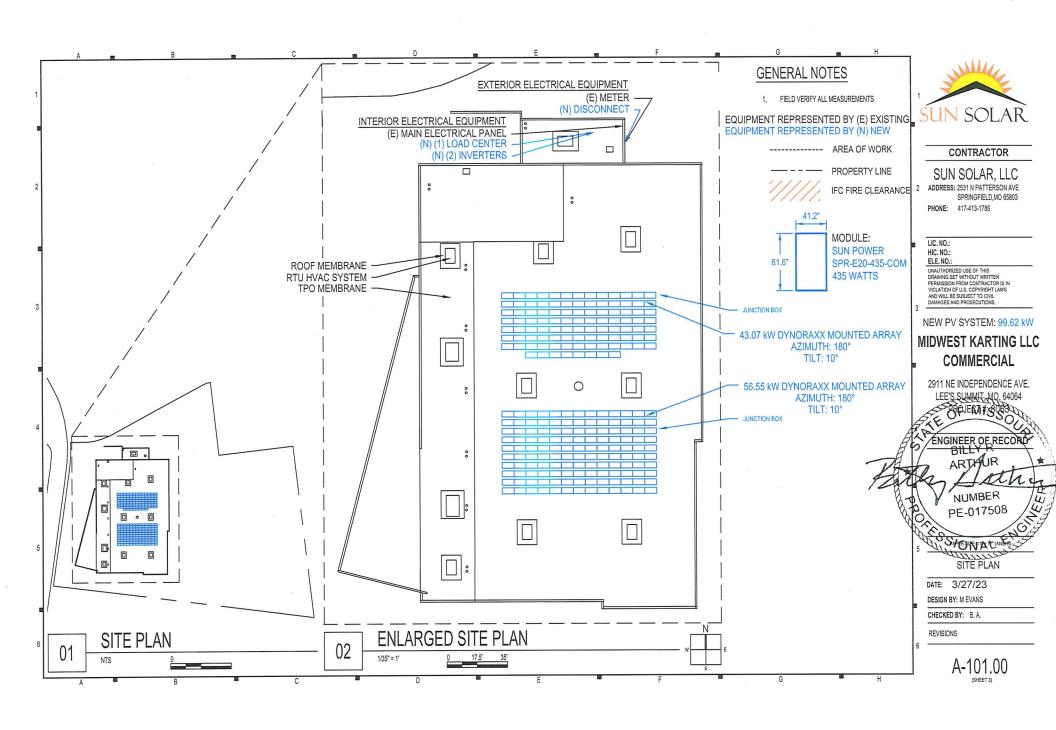
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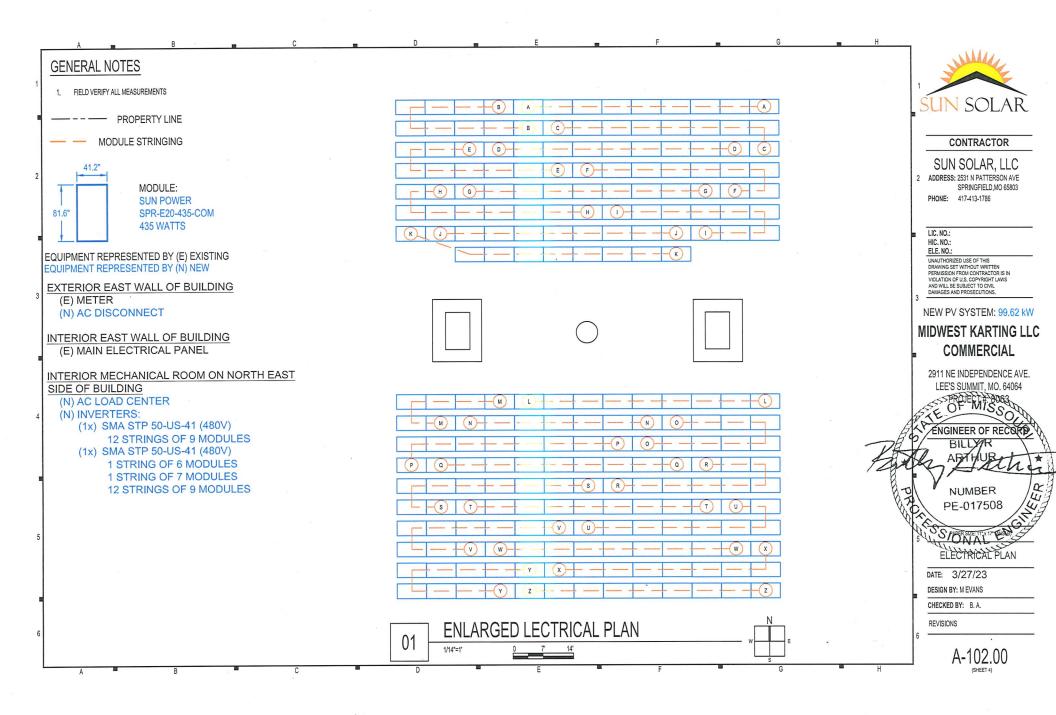
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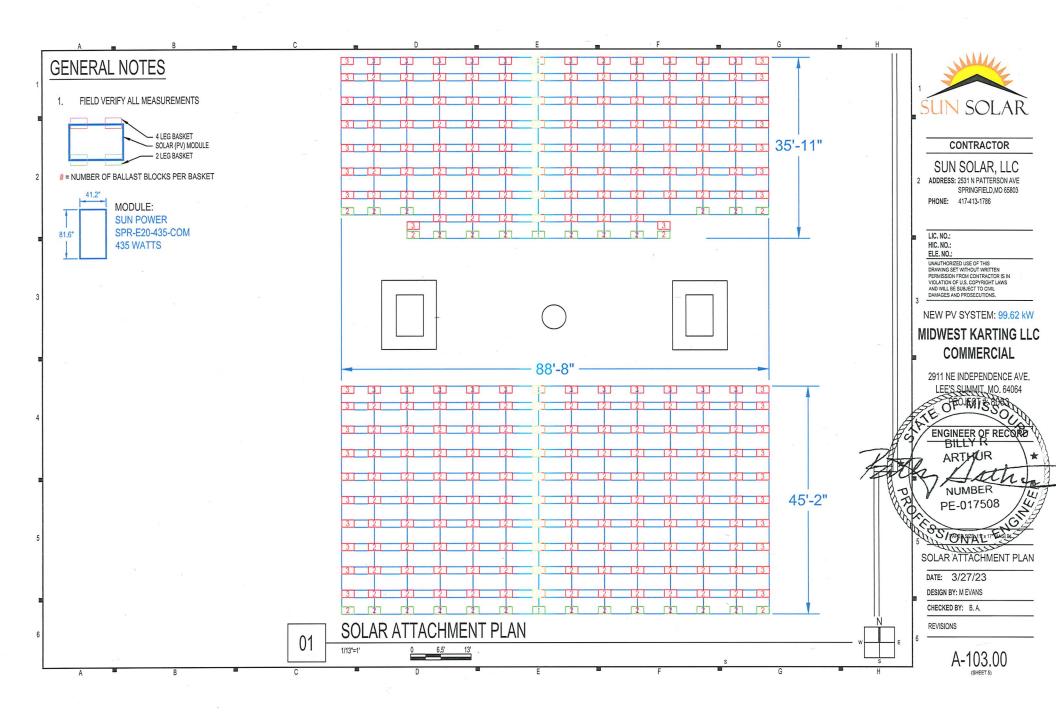
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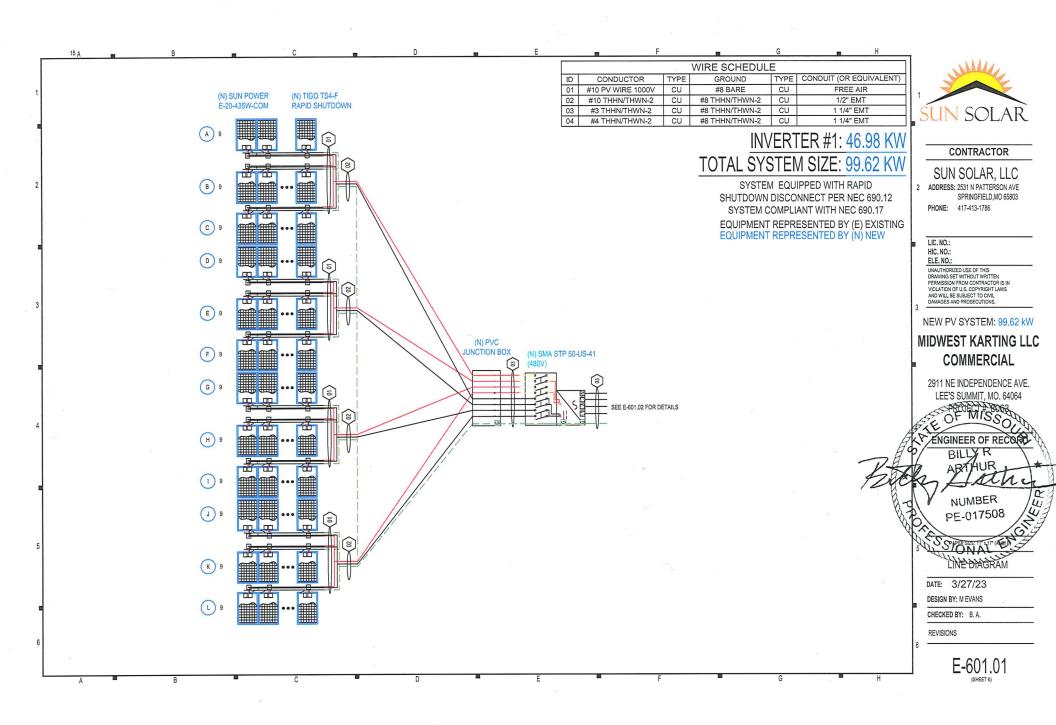
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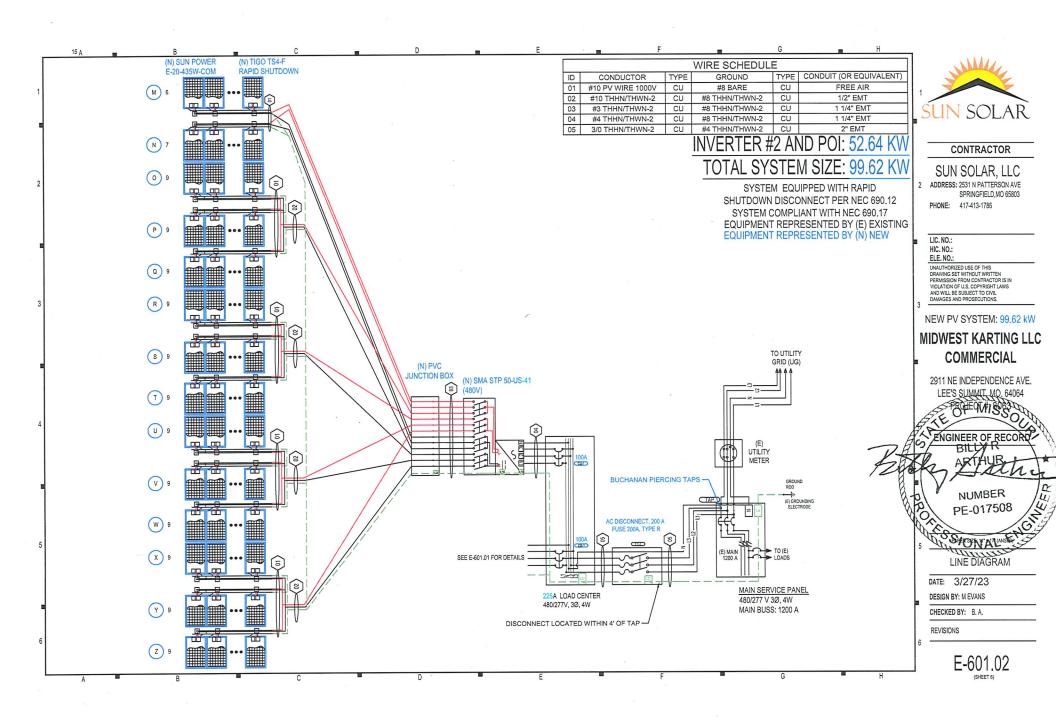
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		BILL OF M.	ATERIA	LS		
CATEGORY	MAKE	MODEL NUMBER	REF	QTY	UNIT	DESCRIPTION
MODULE	SUN POWER	SPR-E-20-435-COM	PM1-229	229	PIECES	S SUN POWER E-20-435-COM
INVERTER	SMA	SUNNY TRIPOWER CORE1-50-US	11-2	2	PIECE	SMA SUNNY TRIPOWER CORE1-50-US
RAPID SHUT DOWN	TIGO	TS4-F	TS4-F	229	PIECE	TIGO TS4-F
DISCONNECT	SQUARE D	H364RB	SW1	1	PIECE	SQUARE D H364RB SWITCH FUSIBLE GD 3-POLE 200A NEMA 3R, 600VAC OR EQUIVALENT
SUBPANEL	SQUARE D	NF430L2C	SP1	1	PIECE	SQUARE D NF430L2C PNLBRD INTERIOR 250A, 3PH, 4WIRE, MN LUG, CU SUBPANEL 480VAC OR EQUIVALENT
SUBPANEL	SQUARE D	NC38FHR	SP1	1	PIECE	SQUARE D NC38FHR ENCLOSURE BOX- NQNF - NEMA 1 - 20x38IN.
WIRING		GEN-10-AWG-1000V-PV-WIRE-CU	WR1		FEET	10 AWG 1000V PV WIRE, COPPER (POSITIVE AND NEGATIVE)
WIRING		GEN-8-AWG-BARE-CU	WR1		FEET	8 AWG BARE, COPPER (GROUND)
WIRING		GEN-#10-AWG-THHN/THWN-2-CU-RD	WR2		FEET	#10 AWG THHN/THWN-2, COPPER, RED (POSITIVE)
WIRING		GEN-#10-AWG-THHN/THWN-2-CU-BLK	WR2		FEET	#10 AWG THHN/THWN-2, COPPER, RED (NEGATIVE)
WIRING		GEN-#8-AWG-THHN/THWN-2-CU-GR	WR2		FEET	#8 AWG THHN/THWN-2, COPPER, GREEN (GROUND)
WIRING		GEN-#3-AWG-THHN/THWN-2-CU-RD	WR3		FEET	#3 AWG THHN/THWN-2, COPPER, RED (POSITIVE)
WIRING		GEN-#3-AWG-THHN/THWN-2-CU-BLK	WR3		FEET	#3 AWG THHN/THWN-2, COPPER, RED (NEGATIVE)
WIRING		GEN-#8-AWG-THHN/THWN-2-CU-GR	WR3		FEET	#8 AWG THHN/THWN-2, COPPER, GREEN (GROUND)
WIRING		GEN-#4-AWG-THHN/THWN-2-CU-BLK	WR4		FEET	#4 AWG THHN/THWN-2, COPPER, BLACK (LINE 1)
WIRING		GEN-#4-AWG-THHN/THWN-2-CU-RD	WR4		FEET	#4 AWG THHN/THWN-2, COPPER, RED (LINE 2)
WIRING		GEN-#4-AWG-THHN/THWN-2-CU-BLU	WR4		FEET	#4 AWG THHN/THWN-2, COPPER, BLUE (LINE 3)
WIRING		GEN-#4-AWG-THHN/THWN-2-CU-WH	WR4		FEET	#4 AWG THHN/THWN-2, COPPER, WHITE (NEUTRAL)
WIRING		GEN-#8-AWG-THHN/THWN-2-CU-GR	WR4		FEET	#8 AWG THHN/THWN-2, COPPER, GREEN (GROUND)
WIRING		GEN-3/0-AWG-THHN/THWN-2-CU-BLK	WR5		FEET	3/0 AWG THHN/THWN-2, COPPER, BLACK (LINE 1)
WIRING		GEN-3/0-AWG-THHN/THWN-2-CU-RD	WR5		FEET	3/0 AWG THHN/THWN-2, COPPER, RED (LINE 2)
WIRING		GEN-3/0-AWG-THHN/THWN-2-CU-BLU	WR5		FEET	3/0 AWG THHN/THWN-2, COPPER, BLUE (LINE 3)
WIRING		GEN-3/0-AWG-THHN/THWN-2-CU-WH	WR5		FEET	3/0 AWG THHN/THWN-2, COPPER, WHITE (NEUTRAL)
WIRING		GEN-#4-AWG-THHN/THWN-2-CU-GR	WR5		FEET	#4 AWG THHN/THWN-2, COPPER, GREEN (GROUND)
WIREWAY		GEN-EMT-1/2" DIA	WW2-3		FEET	EMT CONDUIT, 1/2" DIA
WIREWAY		GEN-EMT-1 1/4" DIA	WW2-3		FEET	EMT CONDUIT, 1 1/4" DIA
WIREWAY		GEN-EMT-2" DIA	WW2-3		FEET	EMT CONDUIT, 2" DIA
OCPD	GENERIC MANUFACTURER	GEN-CB-100A-208VAC	CB1-2	2	PIECE	CIRCUIT BREAKER, 100A, 208VAC
OCPD	GENERIC MANUFACTURER	GEN-FU-200A-208VAC	F1-3	4	PIECE	F USE, 200A, 208VAC
COMBINER BOX	GENERIC MANUFACTURER	GEN-0786-3R5	JB-1	2	PIECE	COMBINER/PASS-THROUGH BOX, WITH 4 TERMINAL BLOCKS
TAP CONNECTOR	BUCHANAN	BTC4/0-10	TAP	3	PIECE	BUCHANAN B-TAP INSULATION PIERCING TAP CONNECTORS
RACKING	DYNORAXX	DYNORAXX 2 LEG BASKET		29	PIECE	E DYNORAXX 2 LEG FIBERGLASS BASKET
RACKING	DYNORAXX	DYNORAXX 4 LEG BASKET		247	PIECE	E DYNORAXX 4 LEG FIBERGLASS BASKET
RACKING	DYNORAXX	DYNOSLIDE FG RAIL LONG W/TEETH POLYGLASS		460	PACKS	S DYNORAIL WITH THE DYNOSLIDE TOOL/LESS FASTENING
RACKING	DYNORAXX	SLP6-200S-S		920	PACKS	S LOCKING PIN
ATTACHMENT	IRONRIDGE	DYNOBOND 8"		9		DYNOBOND UL RECOGNIZED GROUNDING 8" WIRE LENGTH (PACKS OF 25)
ATTACHMENT	IRONRIDGE	DYNOBOND 38"		4	PIECE	DYNOBOND UL RECOGNIZED GROUNDING 38" WIRE LENGTH (PACKS OF 5)



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ENGINEER OF RECORD

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BOM

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

E-602.00

C D E F G H

TURN RAPID SHUTDOWN SWICH TO THE "OFF" POSITION TO SHUTDOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY



! WARNING!

ELECTRIC SHOCK HAZARD TERMINALS ON THE LINE AND LOAD SIDES MAY

BE ENERGIZED IN THE OPEN POSITION.
DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPLOSED TO SUNLIGHT LABEL 3 AT EACH DISCONNECTING MEANS FOR PERMANENTLY ATTACHED AND BE WEATHER RESISTANT/SUNLIGHT RESISTANT AND CANNOT BE HAND-WRITTEN PER NEC 110.21(B)

ALL SIGNAGE MUST BE

LABEL 1

AT RAPID SHUTDOWN SYSTEM INEC 690,56(C)(1)(A)].

> ! WARNING! MAY BE ENERGIZED IN THE OPEN POSITION

AT EACH DISCONNECTING MEANS FOR PHOTOVOLTAIC EQUIPMENT [NEC 690,13 AND 690,15]

PHOTOVOLTAIC EQUIPMENT

INEC 690.151

LABEL 5
AT EACH DC DISCONNECTING MEANS [NEC 690,53]

PHOTOVOLTAIC AC DISCONNECT

OPERATING CURRENT: 128A AC OPERATING VOLTAGE: 480 V AC

0

LABEL 6

PLAQUE

AT POINT OF INTERCONNECTION, MARKED AT DISCONNECTING MEANS [NEC 690.54]

INTERACTIVE PHOTOVOLTAIC SYSTEM

CONNECTED

PHOTOVOLTAIC SYSTEM DISCONNECT LOCATED

ON EAST WALL OF BUILDING

PHOTOVOLTAIC SYSTEM

EQUIPPED WITH RAPID

SHUTDOWN

! WARNING!

POWER SOURCE OUTPUT

THIS OVERCURRENT DEVISE

CONNECTION - DO NOT RELOCATE

LABEL 12 AT RAPID SHUTDOWN SWITCH

BACKGROUND; REFLECTIVE

[IFC 605.11.1.1]



0

LABEL 7
AT RAPID SHUTDOWN DISCONNECT SWITCH [NEC 690.56(C)(3)].

! WARNING!

DUAL POWER SOURCES. SECOND SOURCE IS PV SYSTEM ! CAUTION!

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

0

LABEL 9 AT POINT OF INTERCONNECTION; LABEL, SUCH AS LABEL 5 OR LABEL 6 MUST IDENTIFY PHOTOVOLTAIC SYSTEM

[NEC 705.12(B)(4)]

INTERACTIVE PHOTOVOLTAIC SYSTEM CONNECTED

LABEL 10

0

AT UTILITY METER INEC 690.56(B)]

POWER SOURCE

LABEL 13

AT EXPOSED RACEWAYS, CABLE TRAYS, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10 FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

[NEC 690.31(G)] [IFC 605.11.1.1]

LETTERS AT LEAST 3/8 INCH: WHITE ON RED BACKGROUND; REFLECTIVE

PHOTOVOLTAIC AC DISCONNECT

PHOTOVOLTAIC

DC DISCONNECT

AT EACH DC DISCONNECTING MEANS

LABEL 14 AT EACH AC DISCONNECTING MEANS

LABELING NOTES

[NEC 690,13(B)]

[NEC 690.13(B)]

1.1 LABELING REQUIREMENTS BASED ON THE 2017 NATIONAL ELECTRICAL CODE, INTERNATIONAL FIRE CODE 605.11, OSHA STANDARD 1910.145, ANSI Z535

OVERCURRENT DEVICE

[NEC 705.12(B)(2)(3)(B)]

AT POINT OF INTERCONNECTION

1.2 MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

1.3 LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

1.4 LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8" AND PERMANENTLY AFFIXED.

1.5 ALERTING WORDS TO BE COLOR CODED. "DANGER" WILL HAVE RED BACKGROUND; "WARNING" WILL HAVE ORANGE BACKGROUND; "CAUTION" WILL HAVE YELLOW BACKGROUND. [ANSI Z535]

DIRECTORY

PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION [NEC 690,56(B)] WHERE THE PV SYSTEMS ARE REMOTELY LOCATED FROM EACH OTHER, A DIRECTORY IN

ACCORDANCE WITH 705.10 SHALL BE PROVIDED AT EACH PV SYSTEM DISCONNECTING MEANS. [NEC 690.56(C)]. LETTERS AT LEAST 3/8 INCH; WHITE ON RED PV SYSTEM EQUIPMENT AND DISCONNECTING MEANS SHALL NOT BE INSTALLED IN BATHROOMS [NEC 690.4(D),(E)]

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM ROOF MOUNTED SOLAR ARRAYS WITH SAFETY DISCONNECTS AS SHOWN: LOAD CENTER o`. MAIN PANEL DISCONNECT PV/ ARRAY 2911 NE INDEPENDENCE AVE. LEE'S SUMMIT, MO, 64064



CONTRACTOR

SUN SOLAR, LLC

ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD.MO 65803

PHONE: 417-413-1786

LIC. NO.: HIC NO:

ELE. NO .: UNAUTHORIZED USE OF THIS DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN VIOLATION OF U.S. COPYRIGHT LAWS AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS

NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE. LEE'S SUMMIT, MO. 64064 F GLOTEN #28000

ENGINEER OF RECORD

NUMBER PE-017508

ARIHUR

S APPRAISE AT A MANITA **PLACARDS**

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

Evolution FR





ev-o-lu-tion

DynoRxxx® Evolution delivers a tool-less ballasted racking system for mounting PV solar panels on flat roofs and surfaces. The proprietary design of the DynoRaxx** ballasted-racking system has been created to simplify and speed installation without compromising quality or performance. With DynoRaxx* Evolution FR, buying commercial solar panel racking has never been more cost-effective.

Three Components Universal Design

No Tools Needed

Rugged Construction

Space-Saving Reverse Basket Design

Base protecting / Non-penetrating

Innovative Design

- · Proprietary racking enables fast installation in less than half the time of other systems
- · No tools needed for assembly one-step pivot clamp secures panels to racking
- · Versatility to accommodate all framed PV solar panels on the market
- · Eliminates need to penetrate roof with fasteners on most installations.
- Smaller footprint than competitive systems saves roof space and adds flexibility
- 10° tilt available
- · Elevated system-does not impede water drainage
- · Non-corrosive
- · No thermal expansion

www.dynoraxx.com Phone: 1866.620.2410 salessingyhoraxx.com



Three Major Components



Rugged Construction - Baskets - Fiberglass

- · Rails fiberglass
- · Clamps 304 stainless steel

- Easy Installation · Initial measurement and chalk line needed for placement of first row
- · Precision components require no field measuring
- · Assembles without touch
- Save time and labor to install more modules per hour

High Performance

- · PE Certified
- ASCE 7-05 compliant
- IBC 2006 compliant
- · Wind tunnel tested



- Fast Turnaround - No special orders - ships quickly upon receipt of order
- · Racking is palletized no special shipping requirements
- · Tool-less design

- · Fewer man hours to install
- Baskets stack like cups Huge Shipping Savings
- · A superior, cost-effective solution

ARRA and Ontario FIT Compliant



Phone 1866.620,2410 Toll Fire Fas 1.666.607.7851







CONTRACTOR

SUN SOLAR, LLC

2 ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD.MO 65803

PHONE: 417-413-1786

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NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE.

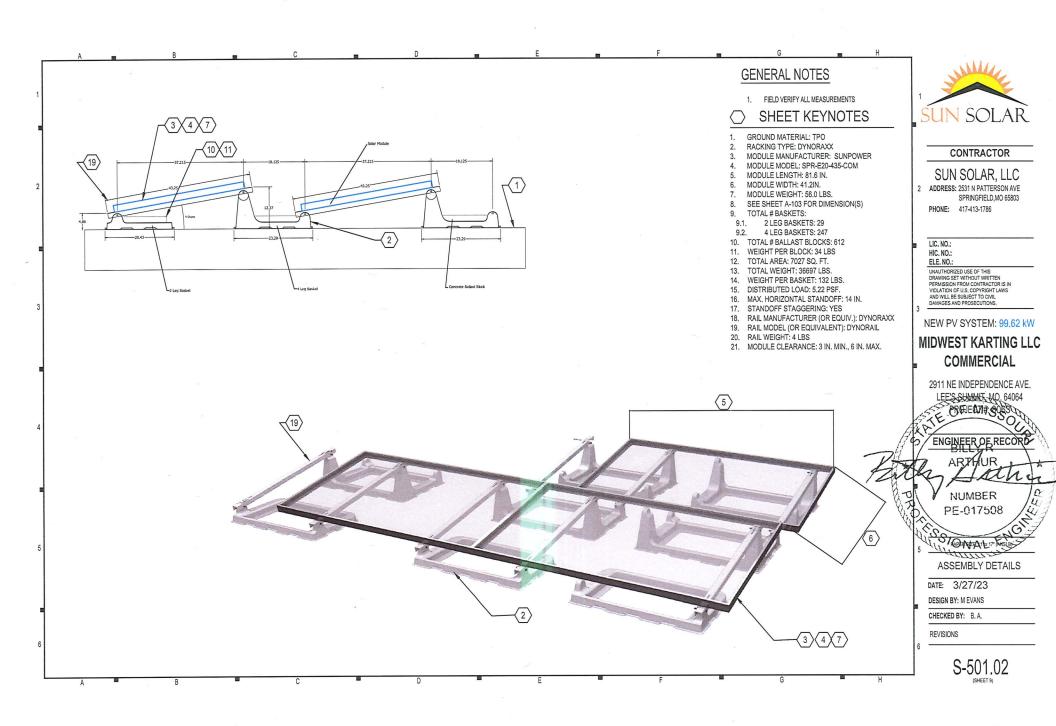
CHOULE # SEQUE

NUMBER PE-017508



DATE: 3/27/23 DESIGN BY: M EVANS

CHECKED BY: B. A.





Helix[™] Roof Compatible Modules

Ractory-installed clips enable tool-free panel installation, decreasing installation time and minimizing business disruption.1

More than 20% Efficiency

Captures more sunlight and generates more power than conventional panels.

High Performance

Delivers excellent performance in real-world conditions, such as high temperatures, clouds and low light?

Commercial Grade

Optimized to maximize returns and energy production, the E-Senes panel is a bankable solution for commercial solar applications.



Engineered for Peace of Mind

Designed to deliver consistent, trouble-free energy over a very long lifetime.3

Designed for Reliability

The SunPower Maxeon solar cell is the only cell built on a solid metal foundation. Virtually impervious to the corresion and cracking that degrada conventional panels.

#1 Rank in Fraunhofer durability test.*

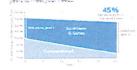
High Performance & Excellent Reliability



High Efficiency

Generate more energy per square foot

More energy to power your system. E-Senes residential systems convert more sunlight to electricity by producing 31% more energy in the first year. This advantage increases over time, producing 45% more energy over the first 25 years to meet your needs."



Best Reliability, Best Warranty

A better warranty starts with a better product. Proven performance backs up our industry-best coverage, including out warranted 0.25% paryear degradation rate.5









	SPR-E20-435-COM
Nombre Pager Program	435 W
Power Tolerance	+5:-3%
Agg Parel Etyler C.	20.3%
Rated Vistage (Virg.p)	72.9 V
Rated Current timpsh	5.97 A
Open-Circuit violas-(Noct	856 V
Short-Circuit (Lutert (Sc)	6.43 A
Max. System Voltage	1500 2 U.C. \$ 1000 V (60
Maximum Ferres Public	15.A
Power Temp Cort	-4.35% / P.C
Voltage Torio Coet.	-235.5 mV / 4 C

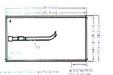
Temperature	~40° Fta +185° Ft-40° C to +85° C)
Impact Peristance	1 inch (25 mm) diameter hall at 52 mph (23 m/s
Appearan	Class R
Span Criti	128 Monocrystalling Maxeon Gen II
Temperor Sarci	high-banistission temperal anti-reflective
Reproduction Selv	iP-65, MC4 compatible
Weight	56 Br. (25.4 kg)
Mar, Luca	What 50 pst, 2400 Pa hight & back Show, 112 pst, 5400 Pa trunt
Tr. com	Charles and the detailer of the

accentination in making macroston comparible with state tracking systems. Their beam \$1500 comparible is Convention and on order is the dissipation of the entropy applies. The Tibe for their entropy per and placed on this produce architectural states and Pating of Their source agreement (Comparible States, Turkhore Mudule Engladation State). "Refining of Their source agreement (Comparible States, Turkhore Mudule Engladation State)."

Sufficient Mode Americans (2015).
Sufficient Mode Americans (1.16 flash) we write paper, (by 2015, Darumer 199 put of 100 put of 10

Producedado Milmacina, 2014. Si See udilangdown consulament a disserproductaliyah-wahi amir furmora dataki. Si Sandado Redi Candonom (1801 kimi) Madaince AM 18, 297 C3 (1878), car branchi Sandana. Sibudi dariranti UACCO 97 shid visitaga.

Select on overlage of measures power values during production.
 Type 3 fire ranging per sci 1703-2013, Obto 0 fire sating per SL 1703-2503.





Place and the safety and returning made

Document # 521912 Rev 5 /17R_US

SUNPOWER'

SUNPOWER*

CONTRACTOR

SUN SOLAR, LLC

2 ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD,MO 65803

PHONE: 417-413-1786

LIC. NO.: HIC. NO .: ELE. NO .:

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NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE.

ENGINEER OFFRECORD

NUMBER PE-017508

RESOURCE DOCUMENT

DATE: 3/27/23 DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

R-001.00



Fully integrated

- . No additional racking required for
- rooftop installation
 Integrated DC and AC disconnects and overvoltage protection
- 12 direct string inputs for reduced labor and material costs
- Up to 60% faster commer system installation

Increased power, flexibility

- . Six MPP tradiers for flexible stringing and maximum power production • ShadeFix, SMA's proprietary shade management solution
- optimizes at the string level · Irrelligent string monitoring to

Enhanced safety, reliability

- · Integrated SonSpec PLC signal for module-level rapid shutdows compliance to 2017 NBC
- Next-gen DC AFC are fault protection certified to new Standard UL 16998 Ed. 1

Smart monitoring, control, service

- . IV curve diagnostic function to visualize and document PV string electrical characteristics
 • Increased ROI with SMA ennexOS cross
- tector energy management platform

 SMA Smart Connected proactive O&M solution reduces time spent diagnosing and servicing in the field

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports, ground mount and repowering legacy solar projects. From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions, and is the most versatile, cost-effective commercial solution available. Integrated SunSpec PLC for rapid shutdown and enhanced DC AFCI arc-fault protection ensure compliance to the latest safety codes and standards. With Sunny Tripawer CORE1 and SMA's ennexOS cross sector energy management platform, system integrators can deliver comprehensive commercial energy solutions for increased ROI.

www.SMA-America.com

Sunny Tripower CORET 33-US Sunny Tripower CORET 30-US

Input (DC) 75000 Ws 570 50000 We STC Maximum array sawer 1000 V 500 V ... 800 V Maximum system vallage 330 V... 800 V Rafed MPF raisage range Rated MPF cologe range MPFT covering cologe range Minimum DC cologe I start rollinge MPF booker I strings per MPP input Maximum bourning mpt consently per MPP tracker Maximum bourning mpt connect year MPP tracker Maximum bourning mpt corners per MPPT / per string input 160 V... 1000 V 150 V / 188 V 6/2 120 A / 20 A

Output (AC) 62500 W 50000 W AC nominal pawer Maximum apparent pawe 33300 W 53000 VA 3/3-[N]-PE 480 V/277 V WYE 66000 VA Dulput phases / line connections Naminal AlZ-sitage AC voltage range 244 V... 305 V 80 A Maximum output current 60 Hs

97.5%

50 Hz 60 Hz /16 Hz -- +6Hz Gold frequency / range 1/0.0 leading ... 0.0 lagging Power factor at rated power/ adjustable displacement Harmonics THO

Efficiency CEC officienty Protection and safety feat

Load saled DC disconnect Load rated AC disconnect Ground fault monitoring: Riso / Differential corrent

DC ARC are-fault protection SunSpec PLC signal for rapid shutdown

DC reverse palarity protection AC short zirzult profestion DC surge protection: Type 2 / Type 1+2 AC surge protection: Type 2 / Type 1+2

Protection class / aven olioge category (as per UL 840)

General dara

Device dimensions (W/H/D) Device weight

Operating temperature range Storage temperature range Audible naise emasions (full power @ 1m and 25 °C)

internal serrumption at night Topology Coaling consept

Enclosure protection rating
Maximum permissible relative humidity (non-condensing) Additional information

Mourting DC comedian

AC commetter LED indicators (Distrat/Fault/Communication) Natural Interfaces: Ethernet/WUAN/R3485

National Interesses Entermet/ WURSY 1998a Date protosola: (2014) Mediawa/ Dunigeer Mediawa/ We ShodeRin technology for string level optimisation Inhalligent pring partnermoso maniforing W source signant infundam Integrated Right Control / Q on Demand 24/7

SMA Smart Connected (proadlive maniforing and service support Carrifications

Cartifications and approvals FCC compilance

Orid interconnection standards Advanced grid support copabilitie

AND THE

Standard Optional extensions © Optional features Type designation

- Not available

A Subject to availability STP 33-US-41

15/20 years

canditions - status, 06/2022 STP 80-US-41

97.54

621 mm/732 mm/569 mm (24.4 in x 28.6 in x 22.4 in)

24 kg (185 lbd) -25 °C...+60 °C (33 °P...+140 °I

-40 °C ... +70 °C (-40 °F ... +158 °F

65 dE(A)

Transformeriess

100%

Free-standing with included mounting feet Amphenal UTX PV connectors Screw terminals - 4 AWO to 4/0 AWO CU/AL

• (2 parts) /4 /0

DL 1741, UL 16998 Sd. 1, UL 1998, CIA 22.2 107-1, PV Replid Shutdown System Equipment, UL 3741

FCC Part 15 Class A FEEE 1547, US 1741 SA - CA Rule 21, HBCO Rule 144

L/MEST L/MVST, Volta/Ar VoltaWalt, Prequency-Walt, Ramp Rate Control, Fixed Power Paster

OptiCoal (forzed convection, variable sp Type 4K, 32X (as per UL 505)

STP 60-US-41

SPROJECT ASSOCIA

ENGINEER OF RECORD

CONTRACTOR

SUN SOLAR, LLC

SPRINGFIELD.MO 65803

ADDRESS: 2531 N PATTERSON AVE

PHONE: 417-413-1786

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AND WILL BE SUBJECT TO CIVIL DAMAGES AND PROSECUTIONS.

DRAWING SET WITHOUT WRITTEN PERMISSION FROM CONTRACTOR IS IN

VIOLATION OF U.S. COPYRIGHT LAWS

NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC

COMMERCIAL

2911 NE INDEPENDENCE AVE.

LIC. NO .:

HIC. NO .:

ELE. NO .:

NUMBER PE-017508 0

S PORTAL IT WEST RESOURCE DOCUMENT

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

Toll Free +1 888 4 SMA USA www.SMA-America.com



SMA America, LLC

Supply Tripowar COREL 62-US

93750 We STC

550 V... 800 V

97.69

Product data sheet

Specifications

Main



Enclosure cover, NQ and NF panelboards, NEMA 1, flush, hinged, 20in W x 38in H

NC38FHR

Product availability: Stock - Normally stocked in distribution facility

Price*: 687.00 USD

(FIGUR)		
Product	Flush cover	
Color	Gmy	
Cover type	Flush cover	
Type of front plate	Hinged	
Complementary		
Material	Stoel	
Height	38 in (985.20 mm)	
Width	20 in (508,00 mm)	
Tightening torque	Cover 1012 lb.in	
Environment.		
Enclosure Rating	NEMA 1	
Product Certifications	citus	
Ordering and shippin	g details	
Category	08352-NF / NO TRIMS RTA	
Discount Schedule	PE1A	
GTIN	785901396840	
Returnability	Yes	
Country of origin	12	
Packing Units		
racking online		

Sustainable offer status	Green Premium product
California proposition 65	WARNING: This product can expose you to chemicals including: Nickel compounds, which is known to the Silbor of California to cause cancer, and Booherid A (BPA), which is known to the Silbor of California is cause birth defects or other reproductive herm. For more information go to www.PSSVmming.ca.gov
REACh Regulation	REACh Distinution
REACH free of SVHC	Yes
EU RoHS Directive	Compliant EU Rots Declaration
Toxic heavy metal free	Yos
Morcury free	You
China RoHS Regulation	Chine RoHS declaration
RoHS exemption information	Yes
Environmental Disclosure	Preduct Environmental Profile

Recommended replacement(s)



CONTRACTOR

SUN SOLAR, LLC

2 ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD,MO 65803

PHONE: 417-413-1786

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NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE. LEE'S SUMMIT, MO. 64064

ENGINEER OF RECO

NUMBER PE-017508

RESOURCE DOCUMENT

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

Number of Units in Package 1 Package 1 Height 22.09 in (56.1 cm) Package 1 Width 42.72 in (108.5 cm) Package 1 Length 22.53 (b(US) (10.219 kg) Package 1 Weight

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

Feb 13, 2023

noon Subjecter

--- Selpeifer

Feb 13, 2023

Product data sheet Characteristics

NF430L2C

NF Pnlbrd Interior 250A, 3 PH, 4 Wire, 30 CCT,

Mn Lug, Cu

Product availability: Stock - Normally stocked in distribution facility

SQUARE



Price**: 2,624.00 USD



Panelboard Type	Main lugs
Branch Circuit Breaker Type	EDB/EDG/EDJ
Busbar Material	Copper
Complementary	
Number of spaces	30
Enclosure Nominal Height	38 in (965.20 mm) 50 in (1270.00 mm)
Enclosure Nominal Width	20 in (506.00 mm)
Enclosure Nominal Width	5.75 in (146.05 mm) NEMA 1 6.5 in (165.10 mm) NEMA 3R/5/12
Line Rated Current	250 A
[lu] rated interrupted current	65 KA
Wiring configuration	4-wire
Number of Phases	3 phase
Voltage Rating	480Y/277 V AC
Connections - terminals	Lug line AWG 6350 kcmil aluminium Lug neutral AWG 6350 kcmil aluminium
Net weight	31.00 lb(US) (14.06 kg)
Tightening torque	40,0150.01 lbf.in (4.525.55 km) 0.020.10 in (13.3057.43 mm) AW/S 6AWG 20) 100.01 lbf.in (11.3 km) 0.020.10 in (13.3067.43 mm) 4W/G 6AWG 0.00) 274.99 lbf.in (31.07 km) 0.020.27 in (13.30177.3 mm) AW/G 63550 kcmil) 274.99 lbf.in (31.07 km) 0.020.20 in (13.30157.3 mm) AW/G 6350 kcmil) 274.99 lbf.in (31.07 km) 0.17024 in (10.72152 mm) AW/G 4300 kcmil)
Width	10.44 in (265.18 mm)
Height	33 in (838.20 mm)

Link Co. Solyneider

CSA C22.2 UL 67 Standards 08350 · NF MLO INTERIOR RTA Category Discount Schedule PEIA 00785901871484 Returnability Yes Country of origin MX Sustainable offer status Green Premium product WARNING: This product can expose you to chemicals including: Nickel compounds and Di-isodecyl phthalate (DIDP) and the state of California to cause Carcinogen and Reproductive harm. For more information go to www.p65wmnings.ca.gov California proposition 65 REACh Regulation REACh free of SVHC Yes EU RoHS Directive Compliant Toxic heavy metal free Yes Mercury free Yes RoHS exemption information China RoHS Regulation Environmental Disclosure

CONTRACTOR

SUN SOLAR, LLC

2 ADDRESS: 2531 N PATTERSON AVE SPRINGFIELD,MO 65803

PHONE: 417-413-1786

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NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE. LEE'S SUMMIT, MO. 64064

ENGINEER OF RECORD

NUMBER PE-017508 KER

RESOURCE DOCUMENT

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

R-003.00

2

18 months

Deute Schneider

Product data sheet Characteristics

H364RB

SWITCH FUSIBLE HD 600V 200A 3P NEMA3R

Product availability: Stock - Normally stocked in distribution facility

SQUARE D



Price**: 2,259.00 USD



Main		
Product	Single Throw Safety Switch	
Current Rating	200 A	
Certifications	UL listed file E2975	
Enclosure Rating	NEMA 3R galvannealed steel	
Factory Installed Neutral	None	
Disconnect Type	Fusible disconnect	-4
Short Circuit Current Rating	10 kA H or K 200 kA R, J or L	
Mounting Type	Surface	
Number of Poles	3	
Electrical Connection	Lugs	
Duty Rating	Heavy duty	
Voltage Rating	600 V AC/DC	
Wire Size	AWG 6250 kcmil copper or aluminium	

Height	742.35 mm (25.25 in)	
Depth	215.90 mm (8.5 in)	
Tightening torque	htening torque 31.07 N.m (275 lbf.in) 0.020.20 in* (13.3127 mm*) AWG 6250 kcmil)	
Ordering and shipping det	- Alice	
Category	00009 - H&HU SW,283P,N3R,30-200A	
Discount Schedule	DE1	
GTIN	00785901482710	
Package weight(Lbs)	20,82 kg (45.9 lb(US))	

charte Schnulder

US
Green Premium product
WARNING: This product can expose you to chemicals including: Lead and lead compounds which known to the State of California to cause Carcinogen & Reproductive harm. For more information g to www.p65warmings.ca.gov
REACh Declaration
Yes
Compliant EU RoHS Decizionion
Yes
Yes
Yes
China RoHS deciaration Pro-active China RoHS declaration (out of China RoHS legal scope)
Product Environmental Profile
No need of specific recycling operations

18 months



CONTRACTOR

SUN SOLAR, LLC

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ENGINEER OF RECORD

NUMBER PE-017508

RESOURCE DOCUMENT

DATE: 3/27/23 DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

R-004.00

2 out Someider

Returnability

473.20 mm (18.63 in)

Warranty



TS4-F is a rapid shutdown solution that pairs with an integrated modular junction box base [TS4-F). Install with Tigo RSS Transmitter for rapid shutdown activation.

Features

- . Meets NEC 690.12 rapid shutdown requirements
- · Module-level deactivation
- · Automatic or manual shutdown
- · PLC signaling

Protect your investment by enhancing safety with TS4-F

- · UL-Certifled for TS4-B (integrated)
- Uses Tigo's Ultra High Definition (UHD) Core technology for superior performance
- Refer to <u>UL GIJS PVRSS listing</u> for rapid shutdown system listed inverters



Deploy TS4-F to prevent fire damage caused by faulty installations, defective equipment, or other environmental hazards.



This product is patent protected

Meet rapid shutdown specifications with TS4-F

Tigo has further expanded its smart module platform with the TS4-F Fire Safety cover, TS4 increases your freedom of choice by allowing you to select the right features for each project and budget.

Sectional	
Voltage Range	16 - 90V
Maximum Current	15A
Maximum Power	475W
Communication Type	FLC
Impedance Matching Function	No
Output Voltage Limit	110
Papia Shurdown UL Listed (NEC 2014 & 2017 540,12)	Yes
Mechanical	
Operating Temperature Pange	-40°C to +85°C (-40°F to +185°F), PH < 85%
Starage Temperature Pange	-40°C to +85°C (-40°F to +185°F), RH < 60%
Cooling Method	Natural Convection
Dimensions (pase with cover)	152,5mm x 108mm x 25,3mm
Weight (base and cover)	570g
Outdoor Rating	IP67/IP65, NEMA 3R
Cabling	
Туре	PV Whe
Output Cable Length	1.0m (standard), 1.2m (optional)
Rating Option:	1000v (standara), 1500v (optional)
Cable Cross-Section	6.3 ± 0.3mm
Connectors	MC4, MC4 aproparable, EVO2

I AN TSA power, are 1 500V compatible. Specify max system voltage when ordering modules with TSA baset for appropriate cables & connectors.

Rapid shutdown oct - ation of TSA-F requires RSS Transmitter.

1500V UL/IEC 1

For sales info:

Maximum String Voltage

sales@tigoenergv.com or 1,408,402,0802

For product info:

Visit tiggeneray.com/products







For technical info:

Visit support tigoeneray.com

For additional info and product selection assistance, use Tigo's online design tool at tigoeneray.com/design



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CONTRACTOR

SUN SOLAR, LLC

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PHONE: 417-413-1786

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NEW PV SYSTEM: 99.62 kW

MIDWEST KARTING LLC COMMERCIAL

2911 NE INDEPENDENCE AVE. LEE'S SUMMIT, MO. 64064

ENGINEER OF RECORD

NUMBER PE-017508

RESOURCE DOCUMEN

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

R-005.00

Ideal Industries - Buchanan B-TAP® Insulation Piercing Tap Connectors



7/14/2017

uchanan B-TAP® Insulation Piercing Tap Connectors



Features

- . Eliminates split bolts and tape
- . Easy two-minute installation requires only box/socket wrench
- Lasy two-minute installation requires only box/soci
 Torque regulating nut breaks off at proper tension
 Installs on energized systems
 Insulation plercing teeth
 Self-insulating, weather-proof

- 600V dual-rated

Ron		Тар		Number of Sens	Catalog Number
Max.	Min.	Max.	Min.		
#1/0 AWG	#8 AWG	#2 AWG	#10 AWG	1	BTC1/0-10
#2/0 AWG	#4 AWG	#10 AWG	#14 AWG	1	BTC2/0-14
#4/0 AWG	#2 AWG	#4/0 AWG	#2 AWG	2	BTC4/0-2
#4/0 AWG	#3 AWG	#2 AWG	#10 AWG	1	BTC4/0-10
#4/0 AWG	#2 AWG	#2/0 AWG	#6 AWG	t	BTC4/0-8
250 MCM	#1 AWG	#4/0 AWG	#4 AWG	1	BTC250-4
350 MCM	#1/0 AWG	350 MCM	#1/0 AWG	2	BTC350-1/0
500 MCM	#2/0 AWG	#4/8 AWG	#4 AWG	2	BTC500-4
500 MCM	#4/0 AWG	350 MCM	#1/0 AWG	2	BTC500-1/0
500 MCM	#2/0 AWG	#10 AWG	#14 AWG	1	BTC500-14

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http://www.idealindustries.ca/products/wire_termination/lugs/lugs_tap_b-tap_connectors.php

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soltection"

RJ-1

Residential Transition Box

The Soltection RJ-1 rooftop junction box with flashing provides a safe, secure, and NEMA 4X watertight solution for the Solar installer to penetrate the roof for attic runs and make the proper wire connections. The product is designed to be simple to install, minimize time on the roof, while additionally providing higher levels of protection for the point of penetration in the roof as well as electrical connections inside the junction box.



- · Designed specifically for solar installations
- · Light weight
- · Non-metallic ---Will NOT rust/corrode
- Easy to drill/modify
- · Captive screws in cover- will not fall out
- · Minimal design, small footprint
- NEMA 4X rated
- · All roof penetrations cover by Nema 4x enclosure



Enclosure

Material: Polycarb blend w/ UV inhibitors UV Stabilized: Yes Impact Resistance: Yes Weight 2.73lb Color: Graphite Black

Dimensions

Flashing Dimensions (Approximate): 13" x 18" Enclosure Dimensions (Approximate): 8" x 8" Total Product Height: 3.5" Cubic Inches: 224 Cubic Inches







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MENOREDITATION RESOURCE DOCUMENT

DATE: 3/27/23

DESIGN BY: M EVANS

CHECKED BY: B. A.

REVISIONS

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Soltection by Vynckier Vynckier Enclosure Systems 271 McCarty Street, Houston, TX 77029 USA +1.866.227.0577