

# SINGLE LINE DIAGRAM: DC SYSTEM SIZE-6.150 kW, AC SYSTEM SIZE- 4.500kW

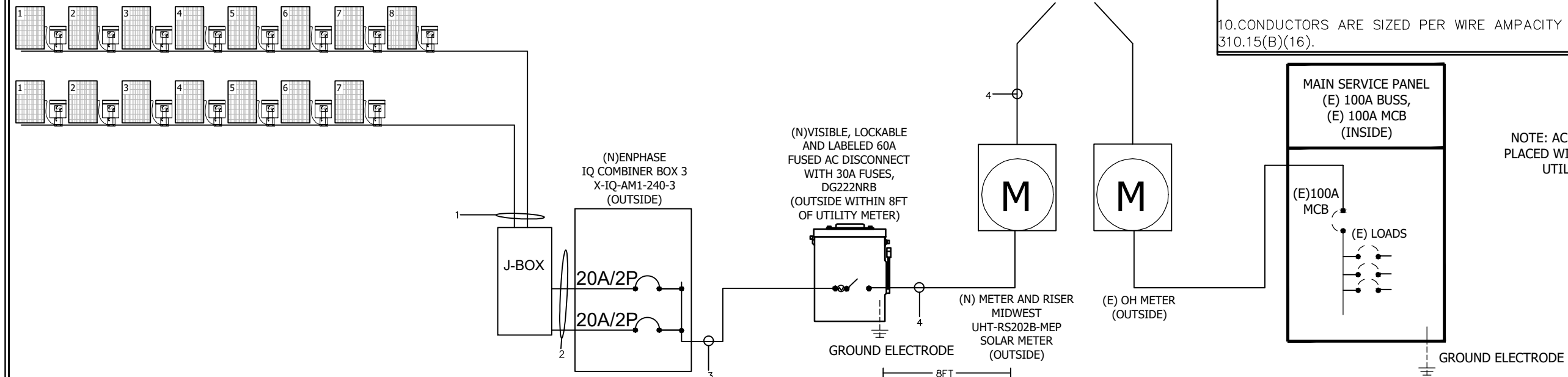
## ELECTRICAL NOTES

MICROINVERTER SPECIFICATIONS		MODULE SPECIFICATIONS	
MODEL	ENPHASE IQ8PLUS-72-2-US MICROINVERTERS	MODEL	JINKO 410W JKM410M-72HL-V
MAX CONTINUOUS OUTPUT POWER	300W	MODULE POWER @ STC	410W
MAX OUTPUT CURRENT	1.21A	OPEN CIRCUIT VOLTAGE: VOC	50.4V
CEC WEIGHTED EFFICIENCY	97.6%	MAX POWER VOLTAGE: VMP	42.3V
MAX DC VOLTAGE	60V	SHORT CIRCUIT CURRENT: ISC	10.60A
MAX DC POWER	235-440W	MAX POWER CURRENT: IMP	9.69A

1. CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
2. CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).
3. MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
4. ALL CONDUCTORS SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED.
5. BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
6. AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
7. AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(C).
8. AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2).
9. MAX. SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7.
10. CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).

### PV ARRAY WITH (15) MICROINVERTERS

(01) STRING OF (08) JKM410M-72HL-V 410W MODULES WITH (08) ENPHASE IQ8PLUS-72-2-US MICROINVERTERS  
 (01) STRING OF (07) JKM410M-72HL-V 410W MODULES WITH (07) ENPHASE IQ8PLUS-72-2-US MICROINVERTERS



CONDUIT SCHEDULE				
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND
1	NONE	(4) #10 AWG THHN/THWN-2	NONE	(2) #6 AWG BARE COPPER
2	(1) 3/4" EMT	(4) #10 AWG THHN/THWN-2	NONE	(1) #8 AWG BARE COPPER
3	(1) 3/4" EMT	(2) #10 AWG THHN/THWN-2	(1) #10 AWG	(1) #8 AWG BARE COPPER
4	(1) 3/4" EMT	(2) #6 AWG THHN/THWN-2	(1) #6 AWG	(1) #6 AWG BARE COPPER

NOTE:  
 MAIN PANEL RATING: 100A, MAIN BREAKER RATING: 100A  
 LINE SIDE TAP : 100% ALLOWABLE BACKFEED IS = 100A  
 OCPD CALCULATIONS:  
 INVERTER OVERCURRENT PROTECTION = INVERTER O/P I X CONTINUOUS LOAD (1.21) =  
 (1.21A x 15 microinverter) = 18.15A  
 18.15A x 1.25 = 22.68A  
 TOTAL REQUIRED PV BREAKER SIZE/FUSE SIZE = 30A MIN

### ELECTRICAL CALCULATIONS

AC WIRE SIZING CALCULATIONS BASED OF FOLLOWING EQUATIONS:  
 -REQUIRED CONDUCTORS AMPACITY: INVERTER OUTPUT CURRENT X #OF INVERTERS X MAX CURRENT PER 690.8(A)(3) X 125% PER 690.8(B)(2)(A)  
 -CORRECTED AMPACITY CALCULATIONS: AMPACITY X TEMPERATURE DERATE FACTOR X CONDUIT FILL DERATE = DERATED CONDUCTOR AMPACITY  
 -DERATED CONDUCTOR AMPACITY CHECK: MAX CURRENT PER 690.8(B)(2)(2) < DERATED CONDUCTOR AMPACITY.

AC WIRE CALCULATIONS: -MATERIAL: COPPER & TEMPERATURE RATING 90°C			
TAG ID	REQUIRED CONDUCTOR AMPACITY	CORRECTED AMPACITY CALCULATION	DERATED CONDUCTOR AMPACITY CHECK
3	18.15A X 1.25 = 22.68A	#10AWG = 40 X 0.87 X 1 = 34.8A	22.68A LESS THAN 34.8A
4	18.15A X 1.25 = 22.68A	#6AWG = 75 X 0.87 X 1 = 65.25A	22.68A LESS THAN 65.25A
DC WIRE CALCULATIONS: -MATERIAL: COPPER & TEMPERATURE RATING 90°C			
TAG ID	REQUIRED CONDUCTOR AMPACITY	CORRECTED AMPACITY CALCULATION	DERATED CONDUCTOR AMPACITY CHECK
1,2	N/A	N/A	N/A



### SINGLE LINE DIAGRAM

THE DARRION WYATT RESIDENCE  
 2756 N SHERMAN BLVD,  
 MILWAUKEE, WI 53210  
 206-931-3566

SOLENERGY  
 PHIL SUTTER  
 LIC#: DC-04210045 EXP: 2023  
 7182 HWY 14, #201  
 MIDDLETON, WI 53562  
 608.558.3842  
 jdhirbrunner@solenergysolar.com

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_

07/19/2022

DRAWN BY: BPM

APN: 3080321000

LOT: 8,250 Sq.Ft.

DWELLING: 2,028 Sq.Ft.

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