



PANEL MODEL: Q. TRON BLK M-G2+ AC 430, QTY 23 REQ'D, 430W

INVERTER TYPE: Q.MI.349B-G1, QTY 23 REQ'D, 349W, 240V

8.027 kW-AC/ 9.890 kW-DC

WIRING SCHEDULE

TAG	CONDUIT SIZE	CABLE TYPE	CONDUCTOR	NEUTRAL	GROUND	NOTES
1	NONE	12/2 Trunk Cable	12 AWG CU	NONE	6 AWG Bare CU	Mfg.supplied cabling within array
2	NONE	12/2 NM-B	12 AWG CU	NONE	12 AWG	Roof J Boxes to Attic J Box
3	1" PVC or EQUIV	N/A	10 AWG CU THWN-2	NONE	10 AWG CU THWN-2	Attic J Box to AC Combiner
4	1" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	AC Combiner to Disconnect; Disconnect to ATS
5	1" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	ATS to Battery
6	2" PVC or LFNC	N/A	4/0 AWG AL THWN-2	4/0 AWG AL THWN-2	NEUTRAL BOND	Meter to ATS
7	2" PVC or LFNC	N/A	4/0 AWG AL THWN-2	4/0 AWG AL THWN-2	6 AWG CU THWN-2	ATS to BUP
8	2" PVC or LFNC	N/A	8 AWG CU THWN-2	8 AWG CU THWN-2	10 AWG CU THWN-2	ATS to Existing Load
9	3/4" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	ATS to Existing Load
10	3/4" PVC or EQUIV	N/A	6 AWG CU THWN-2	6 AWG CU THWN-2	10 AWG CU THWN-2	MDP to NEMA Plug (Car Charger)
11	3/4" PVC or EQUIV	18/2 CL3R	18 AWG CU	NONE	10 AWG CU THWN-2	Low Voltage Rapid Shutdown Circ. to Disconnect

Min/Max Voltage (V):	Vmp/Voc (V):	Tk Vmp/Tk Voc (%/°C):
30.61	33.2	-0.30
41.85	38.7	-0.24

Inverter
ouput

1.45

Circuit Sizes	Amperages
10	18.125
7	12.6875
6	10.875

Total
Amperage

= 41.68

(INVERTER OUTPUT) X (1.25) = BRANCH CIRCUIT AMPERAGE

PV LEAD	ELECTRICIAN

SITE FLOOD PLANE:
ZONE X BFE: N/A

LEGEND
(N) NEW
(E) EXISTING
(O) NEW BY OTHERS
— NEUTRAL
— GROUND

CAPE FEAR
SOLAR SYSTEMS

910 S. 2nd St.
Wilmington, NC 28401
910-409-5533



GC LIC. NO. : 65677
ELEC. LIC. NO. : U-33321

9.89 kW DC PV SYSTEM
WISDOM SOLAR PROJECT
115 Mary Robertson St, Dunn, NC 28334
LINE DIAGRAM

REVISION LIST

#	REV. DATE	DESC.

DATE:	March 18, 2025
DRAWN BY:	JPN

Sheet No.

E-01

GENERAL ELECTRICAL NOTES

- 1. Equipment shall be new unless otherwise noted.
- 2. Equipment shall be listed unless otherwise noted.
- 3. Equipment shall be installed providing adequate working space in compliance with NEC.
- 4. Copper conductors shall be used and shall have insulation rating 600v, 90°C unless otherwise noted.
- 5. Conductors shall be sized in accordance with the NEC and ampacity shall be derated for temperature increase, conduit fill & voltage drop.
- 6. All conductors shall be installed in approved conduits. Conduits shall be adequately supported in accordance with the NEC.
- 7. AC Disconnect is optional, however it may be required by the utility.
- 8. Exposed non-current carrying metal parts shall be grounded in accordance with the NEC.
- 9. All work shall comply with the NEC and all applicable local electrical code requirements.
- 10. Contractor will provide labeling in accordance with the NEC, Article 110, 225, 690, and 705.

PV SYSTEM DISCONNECT/ COMBINER BOX
BREAKER PANELS

⚡

WARNING

⚡

TURN OFF PHOTOVOLTAIC
AC DISCONNECT PRIOR TO
WORKING INSIDE PANEL

⚡

**PHOTOVOLTAIC SYSTEM
AC DISCONNECT**

⚡

OPERATING VOLTAGE VOLTS
OPERATING CURRENT AMPS

**RAPID SHUTDOWN
PV ARRAY**

NEC 110.27(C) & OSHA 1910.145(f)(7)

SERVICE DISCONNECT

**MAIN PHOTOVOLTAIC SYSTEM
DISCONNECT**

NEC 690.13(B)

**SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN
SWITCH TO THE
"OFF" POSITION TO SHUT
DOWN PV SYSTEM AND
REDUCE SHOCK HAZARD IN
THE ARRAY.

SOLAR ELECTRIC
PV PANELS

IFC 605.11.3(1) & NEC 690.12(D)

CAUTION

POWER TO THIS BUILDING IS SUPPLIED FROM THE FOLLOWING
SOURCES WITH DISCONNECTS LOCATED AS SHOWN:

SERVICE DISCONNECT
(EXTERIOR)

PV SYSTEM DISCONNECT
(EXTERIOR)

ESS DISCONNECT
(EXTERIOR)

METER (EXTERIOR)

NET METER w/ BATTERY

⚠

WARNING

⚠

THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND
PV SOLAR ELECTRIC SYSTEM

NEC 705.30(C) and NEC 690.59

ENERGY STORAGE SYSTEMS

**BATTERY
DISCONNECT**

NEC 706.7(E)(2)

**CAPE FEAR
SOLAR SYSTEMS**

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GC LIC. NO. : 65677
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9.89 kW DC PV SYSTEM
WISDOM SOLAR PROJECT
115 Mary Robertson St, Dunn, NC 28334

STICKERS

REVISION LIST ⚠		
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