

 **UNIRAC**<sup>®</sup>

BETTER SOLAR STARTS HERE

BY PRODUCT CODE



**253010U**

SFM SPLICE 6.5'

Pack Size: 10

WO/PO# :0045419-01

Manufacture date: ~~2025~~ 2023

Factory Code : 010A



10038 38118

**UNIRAC**

BETTER SOLAR STARTS HERE

[www.unirac.com](http://www.unirac.com)



2 5 3 0 3 0 U

SFM ATTACHED SPLICE 8"

Pack Size: 10

WO/PO# : 0043974-00

Manufacture date: **JUN 2011**

Factory Code : 010A



810019353386

2 INCH MINIMUM MODULE SEPARATION

UNIRAC  
SOLAR RACKING  
SYSTEMS





REC Alpha Pure Series

REC4050A Pure

Serial Number: FBB-4010467366

Phone: +65 6899 8228  
www.recgroup.com

Power Output (Pmax)

405 W

Watt Class Sorting

0/±5 W

Power Production Tolerance

+/- 3%

Rated Voltage (Vmp)

42.4 V

Rated Current (Imp)

9.56 A

Open Circuit Voltage (Voc) (+/- 3%)

48.9 V

Short Circuit Current (Isc) (+/- 3%)

10.30 A

Maximum System Voltage (Vsys)

1000 V

Maximum Series Fuse (DC) (UL)

25 A

Maximum Series Fuse (DC) (IEC)

25 A

Design Load

+1666 / -2000 Pa\*

Maximum Test Load

+7000 / -4000 Pa\*

\*Values at STC: 1000 W/m<sup>2</sup>, air V.C., air temp: 25°C



\* Certified in  
A, B, and C  
\* Certified in  
C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z  
\* 10 Year Power Type 2\*



\* REC 4050A  
\* REC 4050B



UK  
CA

Manufactured: 26.06.2022

\*The manufacturer does not accept any responsibility for the use of the product in any other way than for which it is intended.



Warning: electrical hazard. This module produces electricity when exposed to light.

CAUTION: DO NOT DISCONNECT UNDER LOAD

Avertissement: Risque de choc électrique. Ce module produit de l'électricité lorsqu'il est exposé à la lumière.

ATTENTION: NE PAS DECONNECTER SOUS TENSION

For field connections, use min. 4 mm<sup>2</sup> AWG20 UL-FW wires insulated for a min. of 30°C

Made in Singapore by REC SOLAR PTE. LTD.

30 Tuas South Avenue 14, Singapore 630114, SINGAPORE

Europe Contact: REC Solar EMSL GmbH

Salzberg, 71611541 Munich, Germany, Tel: +49 (0)89 447 18888

Fax: +49 (0)89 447 18888, www.recgroup.com/usa/usa/



# IQ Combiner 4

Photovoltaic  
Combiner Box  
X-IQ-AM1-240-4

## Electrical ratings

Voltage 240VAC, 60Hz  
DG Breakers 80A MAX (combined)  
DG Inputs 64A MAX (combined)  
Output 65A MAX, 90A MAX feeder OCPD  
Temperature 46°C MAX ambient  
For DG breaker, use only Eaton BR series.

  
202233023033

S/N:   
202233023033

P/N:

  
883-00358

Dedicated solar and DG Combiner Box - do not add loads  
10 AMP or 15 AMP IQ Gateway Breaker not used for backfe

Connection	Wire sizes
DG Breaker (1, 2, 3, 4)	14-10 AWG 8 AWG 6-4 AWG
60A Circuit Breaker only	4-10 AWG
IQ Gateway Breaker	14-10 AWG

Neutral and ground

Large Screw 14-10 AWG 5.0 NT 16 (b-10)  
Small Screw 6 AWG 3.6 NT 18 (b-10)

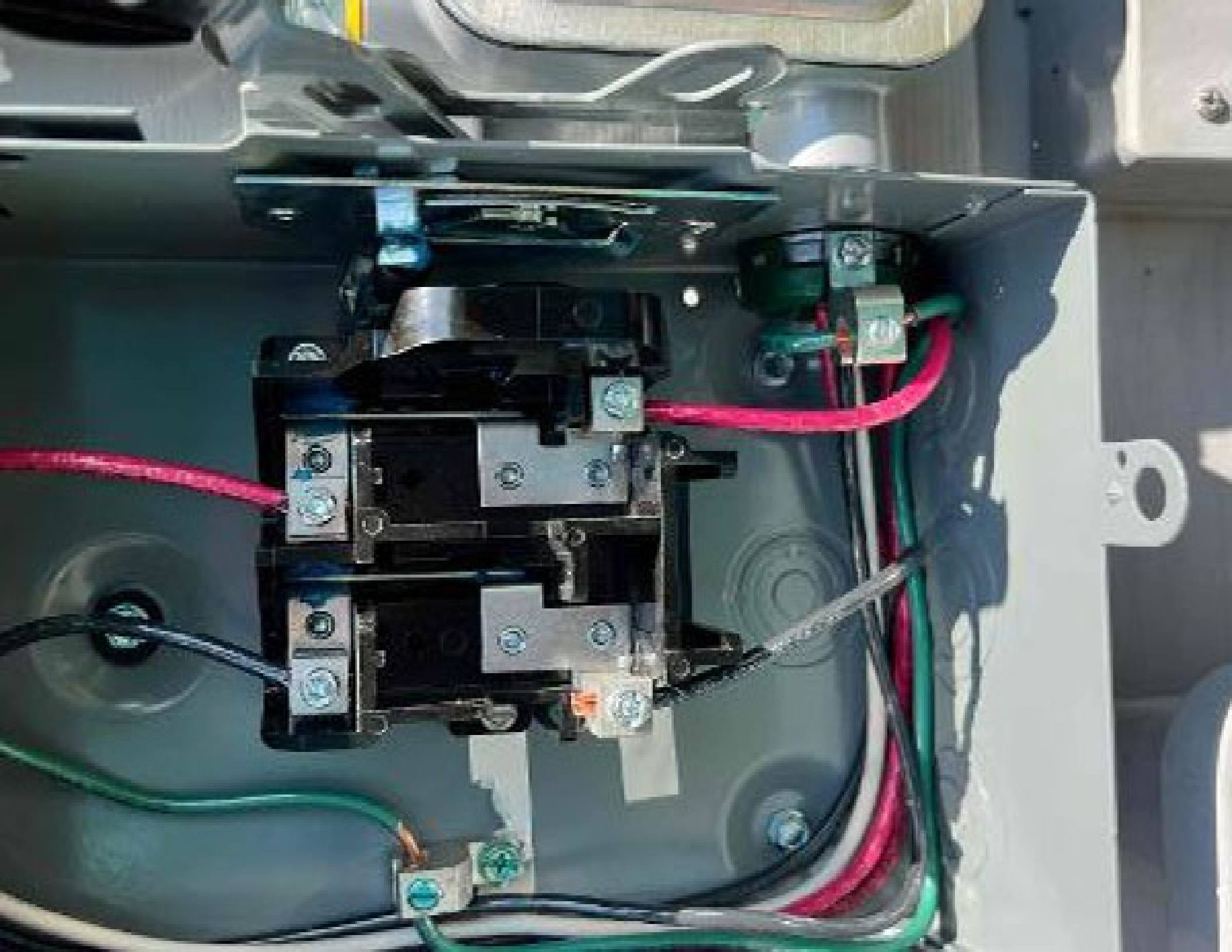
Small Screw	4 AWG
Small Screw	10-14 AWG 2.5
10-4 AWG	5.0 N
3-2/0 AWG	5.6 N

Main lug

Rex Dwyer  
117 Sherman Rd

120VOLTAGE  
SOURCE















**ILSCO** SGB-4  
CONDUCTIVE STEEL SCREWS



UL  
Listed  
Approved in Mexico

LAY-IN GROUND LUG  
STAINLESS STEEL SCREWS  
WIRE RANGE 14 - 14  
MAX FRAME THICKNESS  
ILSCO SGB-4  
PATENT NO. 07452416.5

WARNING: Cancer and Reproductive  
Harm - www.n65.com/n65/usa/eng/usa

2022021



ILSCO MANUFACTURING CORPORATION  
44270 S. 65th Street  
Scottsdale, AZ 85258

QTY  
50

Panel Ground









**EZ**  
**SOLAR**

18-12

Rex Dwyer  
117 zsherman rd Fucusy Virginia Mo





Per David



Customer Name:

Mr. Steven DD  
Surya Varma NC 27526

Rated Category	Potential Hazards	Control Methods
Worker Safety	<ul style="list-style-type: none"> <li>• Incompetent</li> <li>• Defective</li> <li>• Communication</li> </ul>	<ul style="list-style-type: none"> <li>- Fall harness w/ 4 anchors</li> <li>- Snap for offs</li> <li>- electrical gloves</li> <li>- Power Shutdown</li> </ul>
Fall Protection	<ul style="list-style-type: none"> <li>• Full body E in ground</li> </ul>	<ul style="list-style-type: none"> <li>- harness w/ 4 anchors</li> <li>- snap for offs</li> </ul>
Electrical Safety	<ul style="list-style-type: none"> <li>• Deenergization</li> <li>• lock/Tag</li> </ul>	<ul style="list-style-type: none"> <li>- electrical gloves</li> <li>- Power Shutdown</li> </ul>
Heat & Respiratory Hazards	<ul style="list-style-type: none"> <li>• High Temp 200°F</li> <li>• Extreme heat 100°F or higher</li> </ul>	<ul style="list-style-type: none"> <li>- Shade (provided) / wear Hat</li> <li>- water</li> </ul>
Public Protection	<ul style="list-style-type: none"> <li>• Falling object</li> <li>• Misrouted</li> </ul>	<ul style="list-style-type: none"> <li>- Fall with</li> </ul>
Nearest Hospital	<p>Hospital Name: <b>Central Vermont Hospital</b>                  Hospital Address: <b>215 Briggswater Dr                  Lillingston NH 27546</b></p>	
Safety Contact	<p>Safety Contact Name: <b>Henry Mull (EIM)</b>                  Safety Contact Phone: <b>(888) 896-5514</b></p>	
Site Lead:	<p>Name: <b>Edwin Carr</b>                  Title: <b>David Brown</b></p>	
Site Supervisor:	<p>Name: <b>David Carr</b></p>	

**⚠ DANGER**

BEFORE WORKING ON THIS UNIT, DISCONNECT ALL POWER SOURCES TO THE UNIT.

WARNING: The unit contains high voltage capacitors that can store a charge of up to 300VDC. These capacitors can store a charge for up to 10 minutes after power is disconnected. To avoid electric shock, discharge the capacitors before working on the unit. To discharge the capacitors, use a 10kΩ resistor connected across the output terminals. After the capacitors are discharged, the unit can be safely worked on.

**⚠ PELIGRO**

ANTES DE TRABAJAR EN ESTE UNIDAD, DESCONECTE TODA FUENTE DE ENERGÍA.

ADVERTENCIA: El equipo contiene condensadores de alto voltaje que pueden almacenar una carga de hasta 300VDC. Estos condensadores pueden almacenar una carga durante hasta 10 minutos después de desconectarse la energía. Para evitar un choque eléctrico, descargue los condensadores antes de trabajar en el equipo. Para descargar los condensadores, use un resistor de 10kΩ conectado a través de los terminales de salida. Después de que los condensadores estén descargados, el equipo puede ser trabajado con seguridad.

**⚠ WARNING**

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**⚠ ADVERTENCIA**

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**Output Characteristics**

Output Voltage (V)	Output Current (A)	Efficiency (%)	Power (W)
12.0	10.0	85	120
12.0	20.0	80	240
12.0	30.0	75	360
12.0	40.0	70	480
12.0	50.0	65	600
12.0	60.0	60	720
12.0	70.0	55	840
12.0	80.0	50	960
12.0	90.0	45	1080
12.0	100.0	40	1200

**Input Characteristics**

Input Voltage (V)	Input Current (A)	Efficiency (%)	Power (W)
12.0	10.0	85	120
12.0	20.0	80	240
12.0	30.0	75	360
12.0	40.0	70	480
12.0	50.0	65	600
12.0	60.0	60	720
12.0	70.0	55	840
12.0	80.0	50	960
12.0	90.0	45	1080
12.0	100.0	40	1200

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**⚠ WARNING**

**INVERTER OUTPUT CONNECTION**

**DO NOT RELOCATE THIS OVERCURRENT DEVICE**

**SOLAR BREAKER**



**WARNING**

BEFORE WORKING ON THIS UNIT, DISCONNECT ALL POWER SOURCES TO THE UNIT.

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PHOTOVOLTAIC SYSTEM  
AC DISCONNECT

**WARNING**

DUAL POWER SUPPLY

Always turn off both power lines before working on the array.

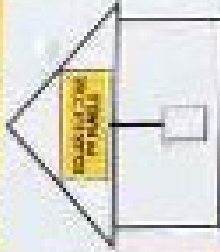
**ELECTRIC SHOCK HAZARD**

DO NOT TOUCH TERMINALS.  
TERMINALS ON BOTH THE UPS AND LOAD SIDE  
MAY BE ENERGIZED IN THE OFF POSITION.

OPERATING VOLTAGE **120V** VOLTS  
OPERATING CURRENT **30A** AMPS

**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



**WARNING**

PHOTOVOLTAIC SYSTEM  
COMBINER PANEL

DO NOT ADD LOADS

**WARNING**

WARRANTY VOID IF CONNECTIONS

DO NOT RELOCATE  
THIS DISCONNECT  
DEVICE

**⚠ WARNING**  
**DUAL POWER SUPPLY**  
SOURCES: UTILITY GRID AND  
PV SOLAR ELECTRIC SYSTEM



CL200 240V 3W TYPE L2M 302FA 1.0K/L  
#ZZZ 959056 H67  
DUKE ENERGY PROGRESS  
525 DSO 489  
11181  
Circuit Watch  
1118

PHOTOVOLTALIC  
AC DISCONNECT  
**⚠ WARNING**  
DUAL POWER SUPPLY  
ELECTRIC SHOCK HAZARD  
DO NOT TOUCH

**PHOTOVOLTAIC SYSTEM  
AC DISCONNECT**

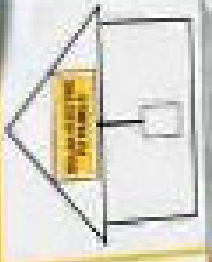
**WARNING**  
DUAL POWER SUPPLY

**ELECTRIC SHOCK HAZARD**  
DO NOT TOUCH TERMINALS  
OR WIRING ON BOTH THE LOAD AND SOURCE  
MAY BE ENERGIZED IN THE OPEN POSITION.

OPERATING VOLTAGE **120V AC**  
OPERATING CURRENT **10A**

**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.



**WARNING**  
DO NOT TOUCH TERMINALS  
OR WIRING ON BOTH THE LOAD AND SOURCE  
MAY BE ENERGIZED IN THE OPEN POSITION.

**WARNING**  
WATER-RESISTANT CONNECTORS  
DO NOT RELY ON THIS CONNECTION'S  
WEATHER RESISTANCE TO PREVENT  
WATER INTRUSION.





PHOTOVOLTAIC SYSTEM  
AC DISCONNECT



**WARNING**

DUAL POWER SUPPLY

WARNING: TO PREVENT ELECTRICAL SHOCK, DISCONNECT BOTH MAIN SUPPLY AND PV SUPPLY BEFORE WORKING ON THIS EQUIPMENT.

**ELECTRIC SHOCK HAZARD**

TO PREVENT ELECTRICAL SHOCK, DISCONNECT BOTH MAIN SUPPLY AND PV SUPPLY BEFORE WORKING ON THIS EQUIPMENT.

OPERATING VOLTAGE **480V** VOLTS

OPERATING CURRENT **56** AMPS



**WARNING**

THIS EQUIPMENT FED BY MULTIPLE SOURCES. TOTAL RATING OF ALL OVERCURRENT DEVICES, EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE, SHALL NOT EXCEED CAPACITY OF BUSBAR.



**WARNING**

PHOTOVOLTAIC SYSTEM  
COMBINER PANEL

DO NOT ADD LOADS



**WARNING**

MAXIMUM PERMITTED CURRENT RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED THE RATED CAPACITY OF THE BUSBAR. SEE THE INSTALLATION MANUAL FOR MORE INFORMATION.

 **WARNING**

**ELECTRIC SHOCK HAZARD**

TERMINALS ON THE LINE AND  
LOAD SIDES MAY BE ENERGIZED  
IN THE OPEN POSITION

**WARNING: PHOTOVOLTAIC  
POWER SOURCE**













UNIKRAC®



FLASHKIT SFM SLIDER S

00427 1D

FLASHKIT SFM SLIDER S COMP ORK  
DARK Pack Size: 10  
Factory Code: S-1



WZP014M21-05 Hardware Box 30301-40801









Bus Buyer  
117 Durbin St

120VOLTAGE SOURCE





10/2 G NMJ-B

INDOOR WIRE

250 FT

76.20 M



10/2 G NMJ-B

INDOOR WIRE



250 FT

76.20 M



10/2 G NMJ-B

INDOOR WIRE



250 FT

76.20 M



10 G NMJ-B

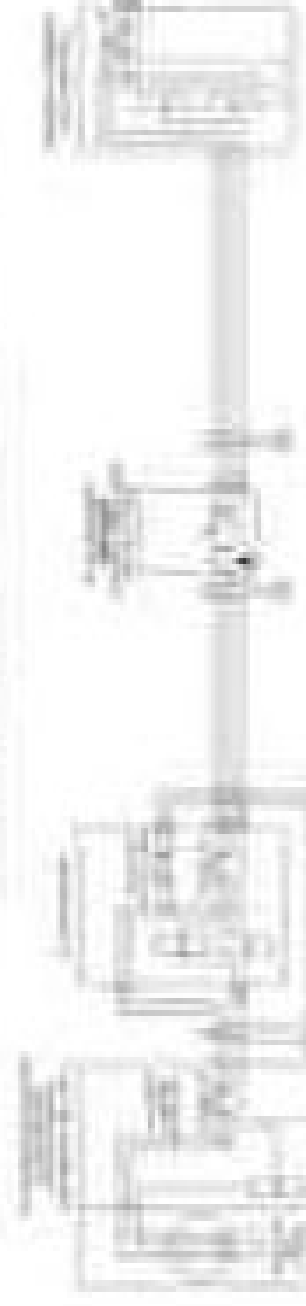
ENCORE WIRE



ENCORE WIRE



Project Title



Objective  
 To design and build a water filtration system that can effectively remove impurities from water.

Background  
 Water is essential for life, but it is often contaminated with various impurities. Filtration is a process that removes these impurities, making the water safe to drink. This project aims to create a simple, effective filtration system using readily available materials.

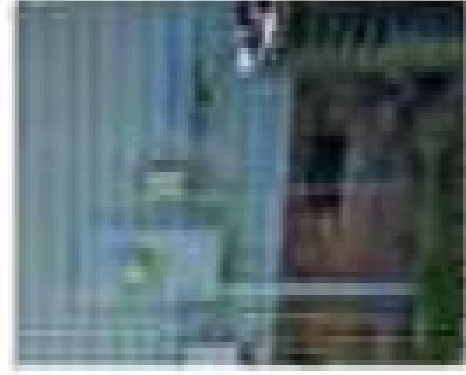


Figure 1: Components of the water filtration system.

Parameter	Value
Flow Rate (L/min)	1.5
Filtering Efficiency (%)	95
Water Quality (pH)	7.2
Water Temperature (°C)	25
Material Cost (USD)	15



SWITCH  
 INTERRUPTOR DE  
 SEGURIDAD DE  
 SERVICIO GENERAL

50 A  
 240 Vac/1 $\phi$



SAFETY LABEL



**⚠ DANGER / PELIGRO**

NEVER REWIRE. ALWAYS TEST. NEVER OPERATE OR REPAIR WHEN LIVE. FOLLOW THE INSTRUCTIONS CAREFULLY. ALWAYS USE PROPER SAFETY PRACTICES. ALWAYS USE APPROPRIATE SAFETY TOOLS.

- Always use proper safety practices when working on electrical equipment.
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1711



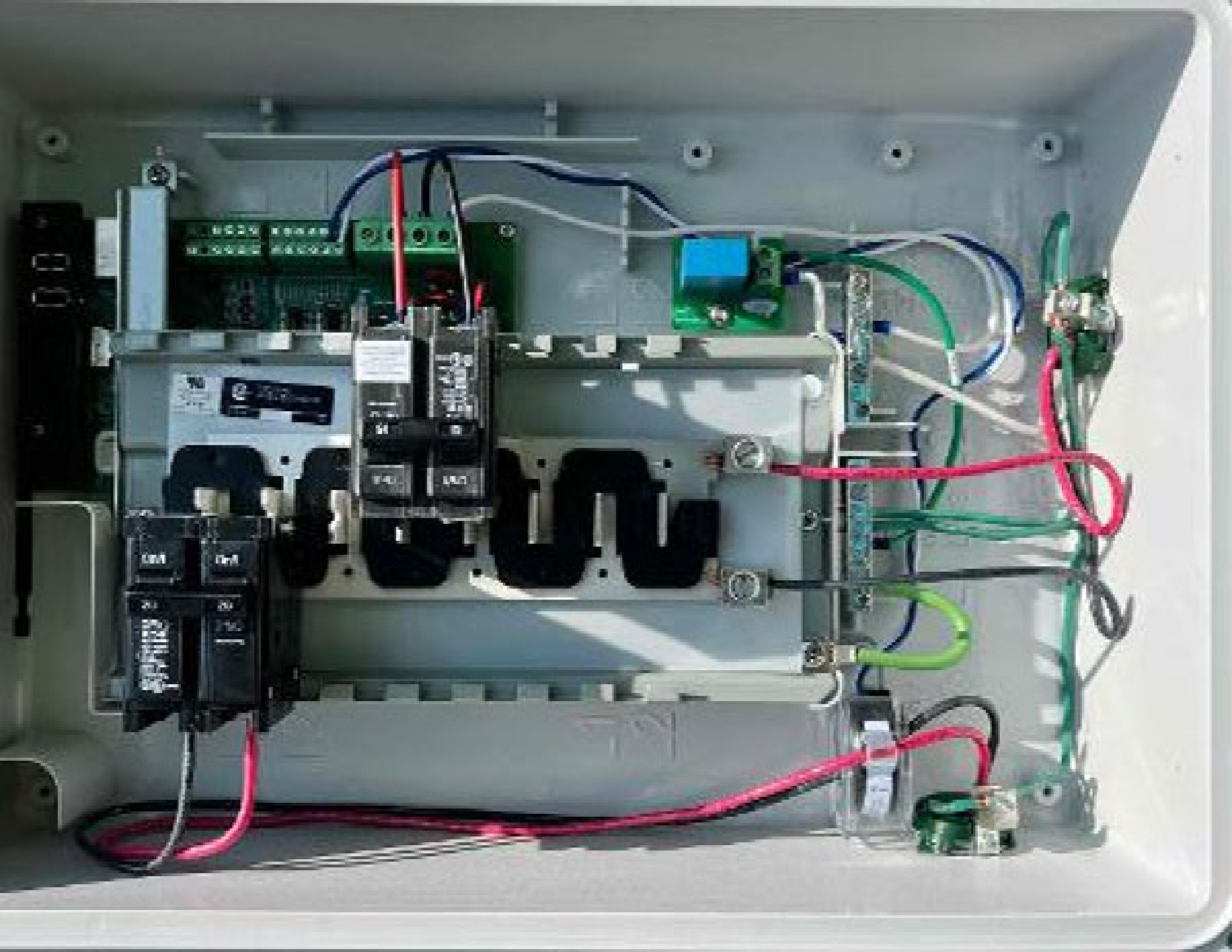
Wiser













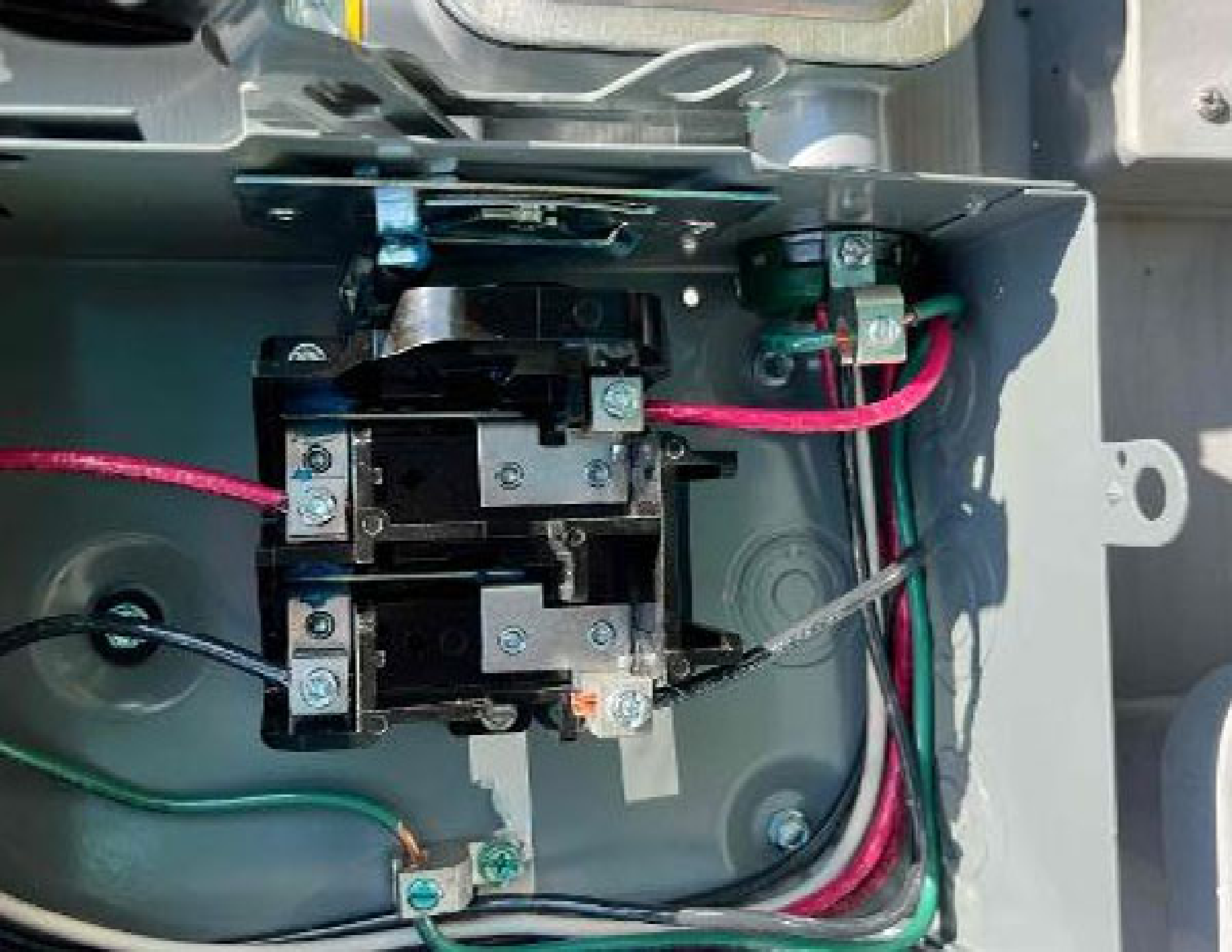
MFG 081  
2705

AVERTISSO  
EQUIPEMENT

SURE















### IQ Microinverters & Array

- ✓ Scanned : 8/8
- ✓ Detected : 8/8
- ✓ Communicating : 8/8
- ⊕ Array created : 0
- ⊖ Array assigned : 0
- ⊖ Producing power : 0/8
- ✓ Profile set : 8/8 (IEEE 1547 default)

IQ Gateway 202293023033



IQ Gateway successfully connected to Enphase Cloud and Installer Toolkit

### IQ Gateway Connectivity Status

	Wi-Fi	
	Ethernet	
	Cellular	





**W**  
 DANGER  
 DE-ENERGIZE  
 BEFORE  
 REPAIRING  
 OR  
 MAINTAINING  
 THIS  
 EQUIPMENT  
 TO  
 PREVENT  
 ELECTRICAL  
 SHOCK  
 OR  
 BURNING  
 INJURY.  
 ALWAYS  
 USE  
 PROPER  
 SAFETY  
 PROCEDURES  
 AND  
 TOOLS.  
 CONTACT  
 THE  
 MANUFACTURER  
 FOR  
 ADDITIONAL  
 INFORMATION.

Item	Description	Quantity	Part Number	Notes
1	...	1	...	...
2	...	1	...	...
3	...	1	...	...
4	...	1	...	...
5	...	1	...	...
6	...	1	...	...
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50	...	1	...	...

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60

60A  
CIRCUIT  
TRIP

 Type HOM  
100A  
10kA  
120/240V  
UL  
LISTED  
C.E.  
DP-4075

H/O  
Circuit Trip

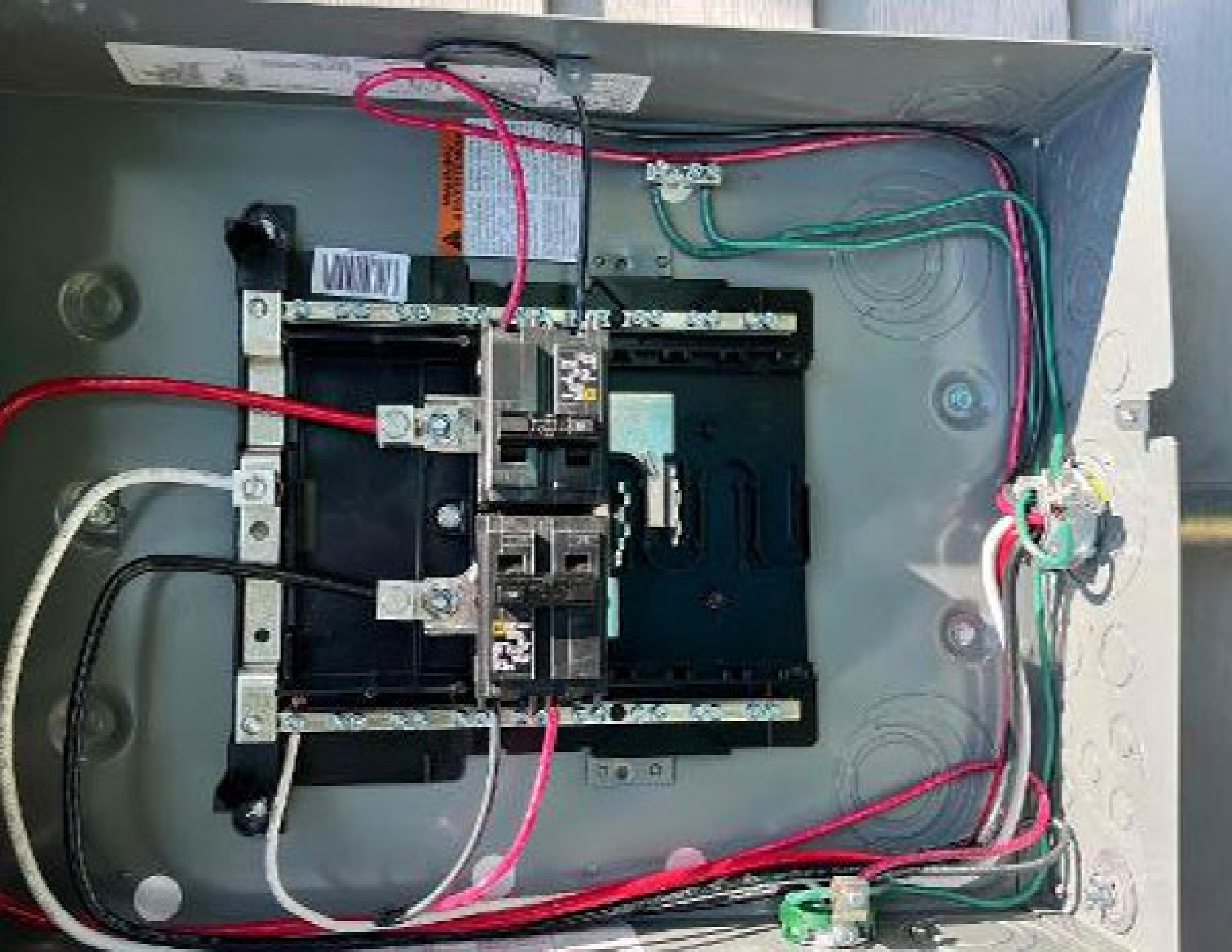


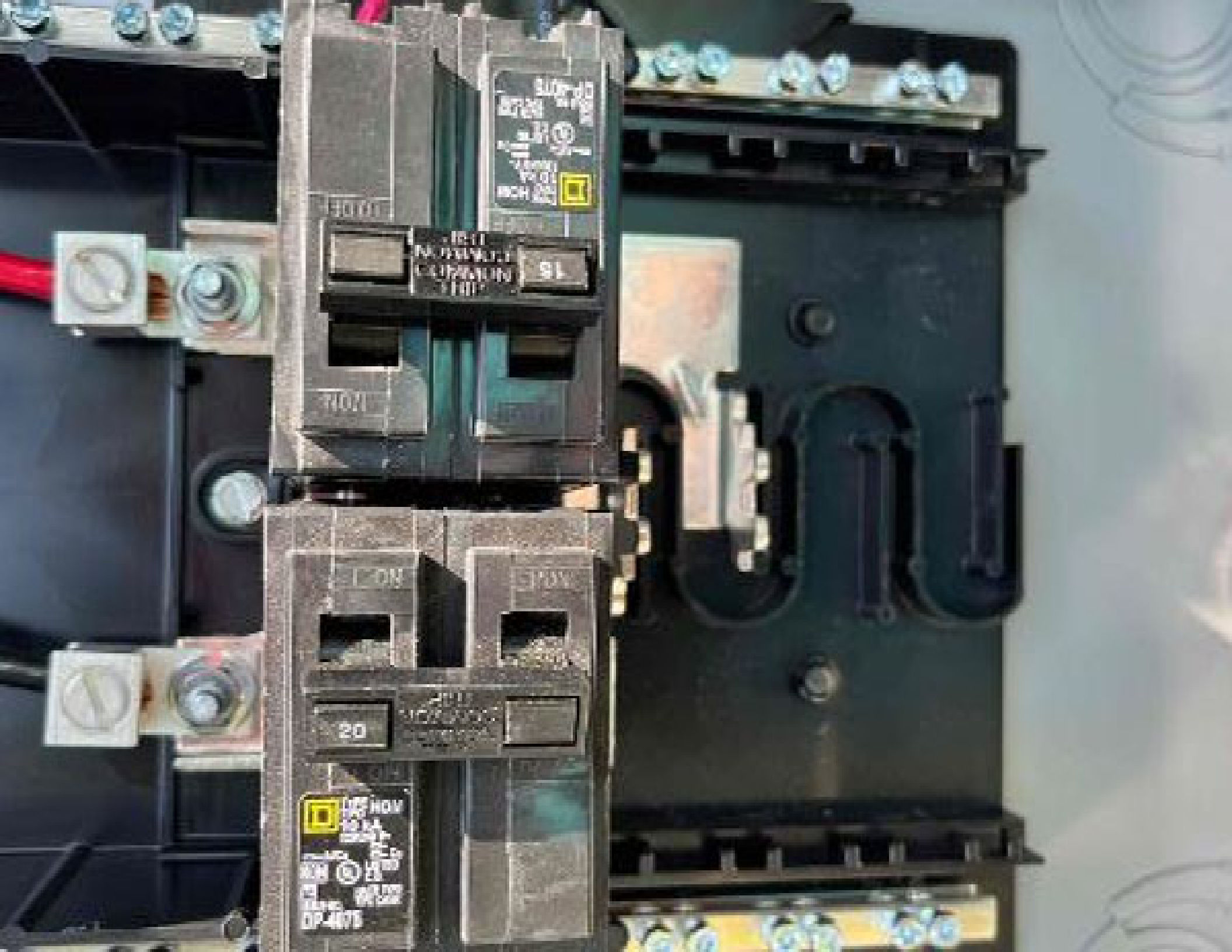












15  
15A  
120V  
100%  
UL  
DP-4075

15  
15A  
120V  
100%  
UL  
DP-4075

20  
20A  
120V  
100%  
UL  
DP-4075

20  
20A  
120V  
100%  
UL  
DP-4075

15  
15A  
120V  
100%  
UL  
DP-4075











DATE: 10/11/00  
MANUFACTURED BY: [illegible]  
SERIAL NUMBER: [illegible]



840-00388-16  
250VAC 20A  
+79°C 2208



105

S (UL) Type DG 600V THHN/THWN-2 90C DRY/WET 2/C 12AWG -40C





PHOTOVOLTAIC  
ENERGY SOURCE



PHOTOVOLTAIC  
ENERGY SOURCE





