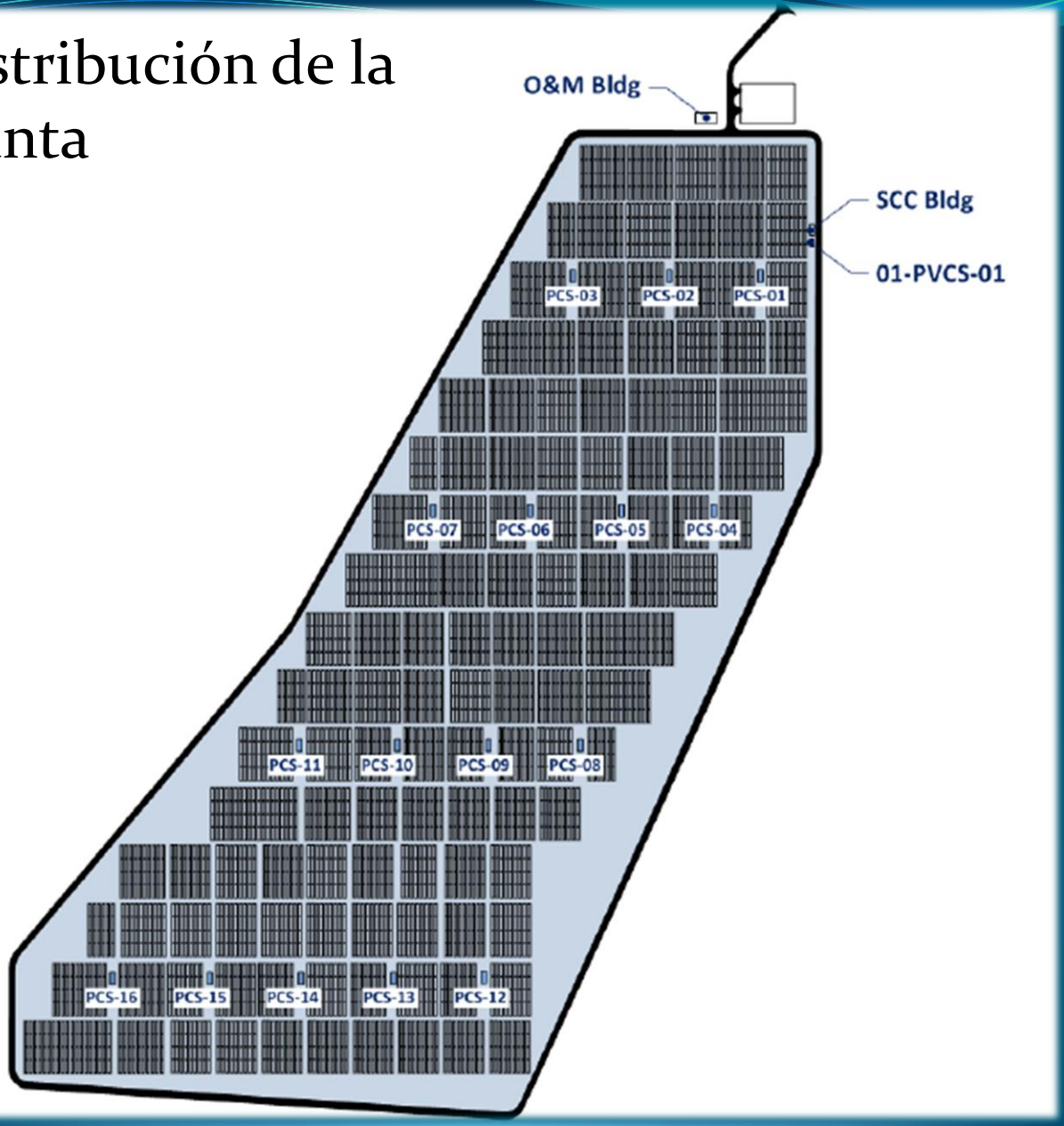
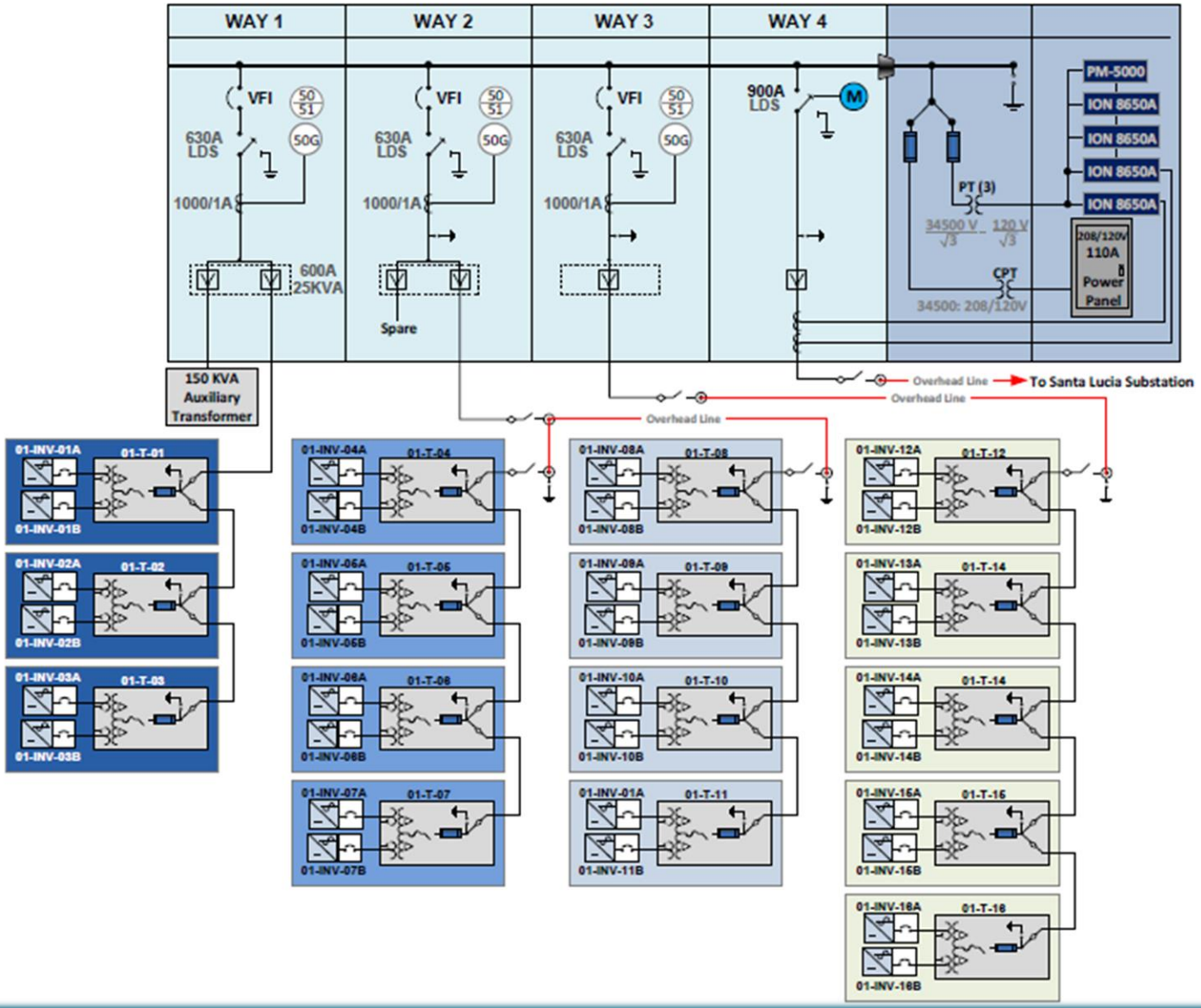
Planta Fotovoltaica Solar del Sur

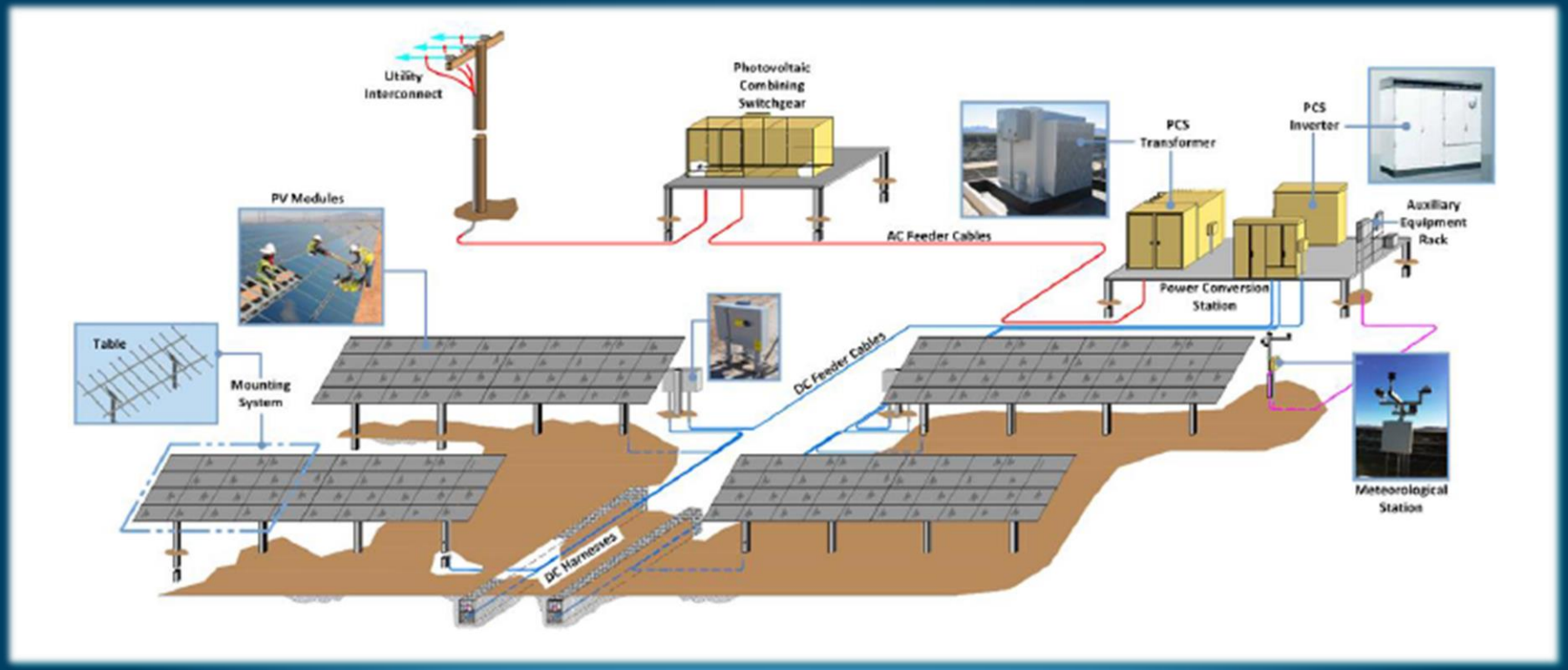
Choluteca, Honduras

Msc. Alan Arias

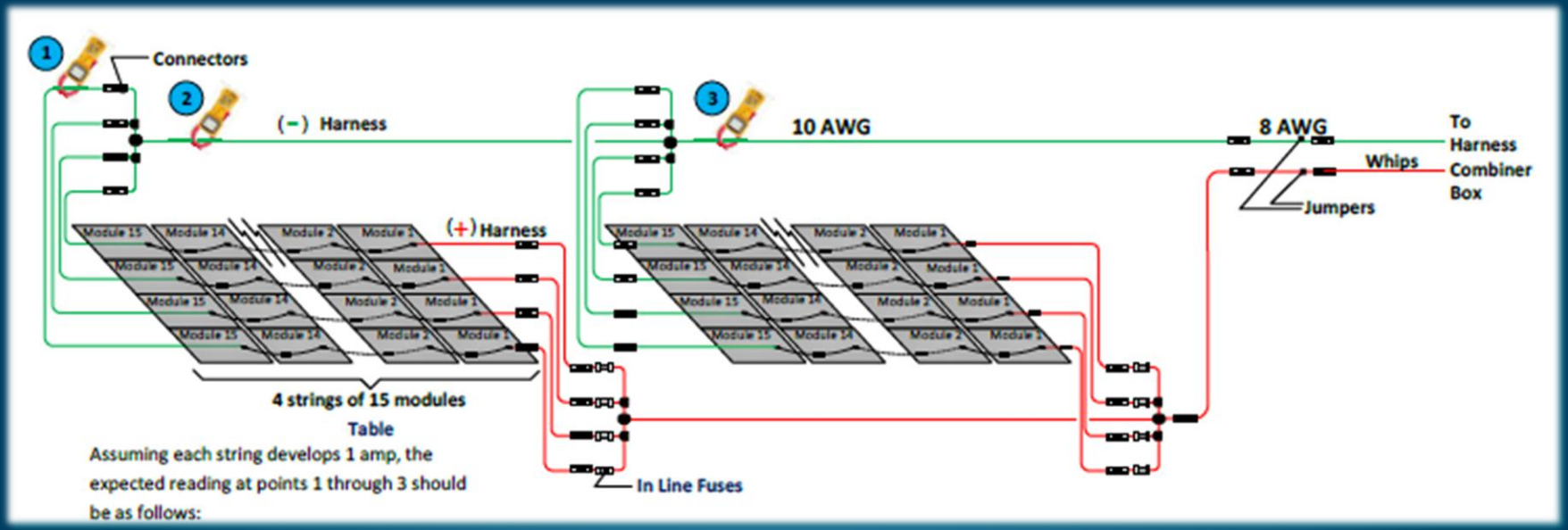
Distribución de la planta




WAY 1
WAY 2
WAY 3
WAY 4
VFI
50/51
50G
630A LDS
1000/1A
600A 25KVA
Spare
900A LDS
M
PT (3)
34500 V / √3
120 V / √3
CPT
34500: 208/120V
208/120V 110A Power Panel
PM-5000
ION 8650A
ION 8650A
ION 8650A
ION 8650A
150 KVA Auxiliary Transformer
Overhead Line
To Santa Lucia Substation
Overhead Line
Overhead Line
01-INV-01A
01-INV-01B
01-T-01
01-INV-02A
01-INV-02B
01-T-02
01-INV-03A
01-INV-03B
01-T-03
01-INV-04A
01-INV-04B
01-T-04
01-INV-06A
01-INV-06B
01-T-05
01-INV-08A
01-INV-08B
01-T-08
01-INV-07A
01-INV-07B
01-T-07
01-INV-08A
01-INV-08B
01-T-08
01-INV-09A
01-INV-09B
01-T-09
01-INV-10A
01-INV-10B
01-T-10
01-INV-01A
01-INV-11B
01-T-11
01-INV-12A
01-INV-12B
01-T-12
01-INV-13A
01-INV-13B
01-T-14
01-INV-14A
01-INV-14B
01-T-14
01-INV-16A
01-INV-16B
01-T-16
01-INV-16A
01-INV-16B
01-T-16


Utility Interconnect
Photovoltaic Combining Switchgear
PCS Transformer
PCS Inverter
PV Modules
AC Feeder Cables
Auxiliary Equipment Rack
Power Conversion Station
Table
Mounting System
DC Feeder Cables
DC Harnesses
Meteorological Station

Paneles solares

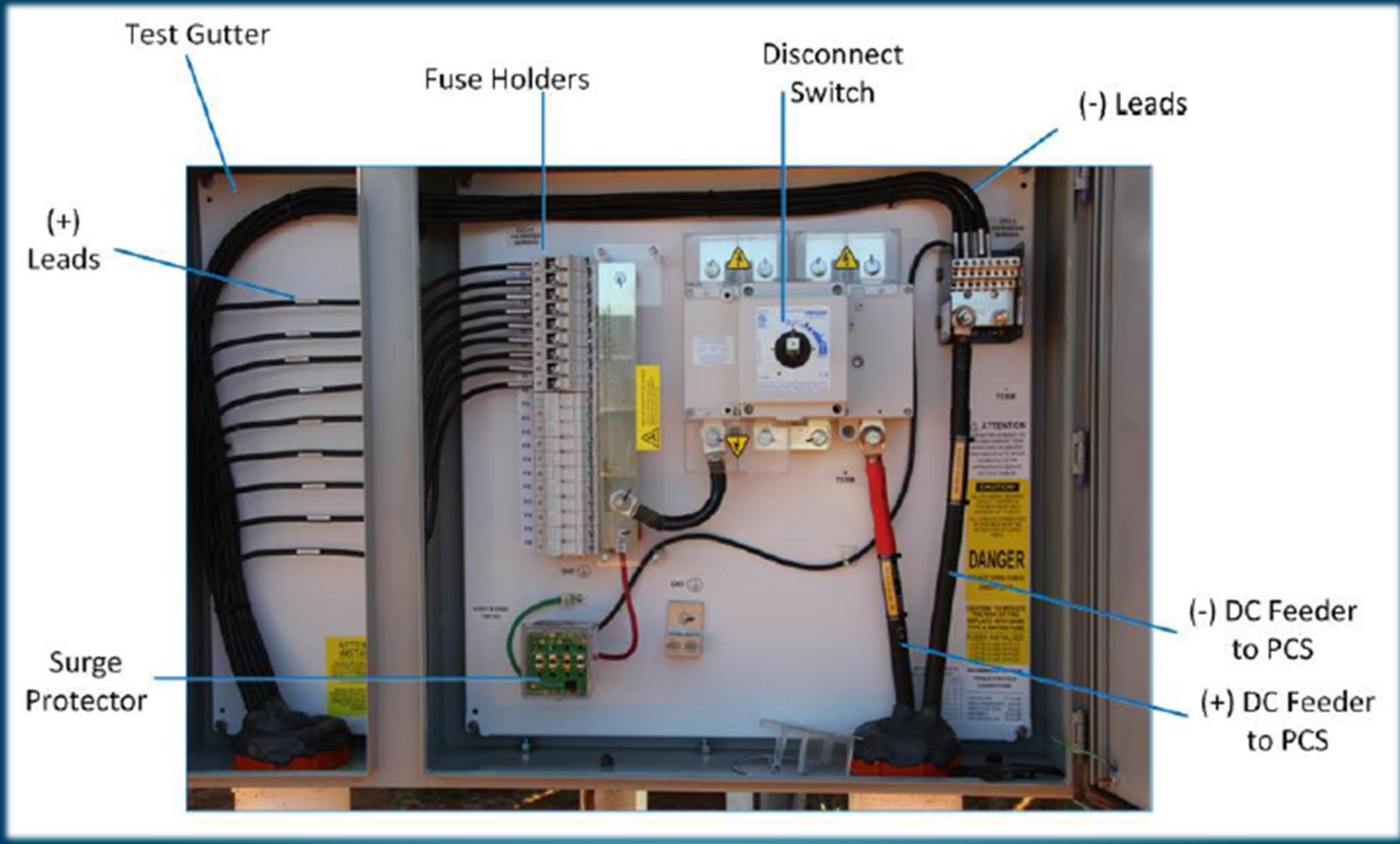


Table

Assuming each string develops 1 amp, the expected reading at points 1 through 3 should be as follows:

Harness Combiner Box

Harness Combiner Box



Power Conversion Station PCS

Inversor

Inversor

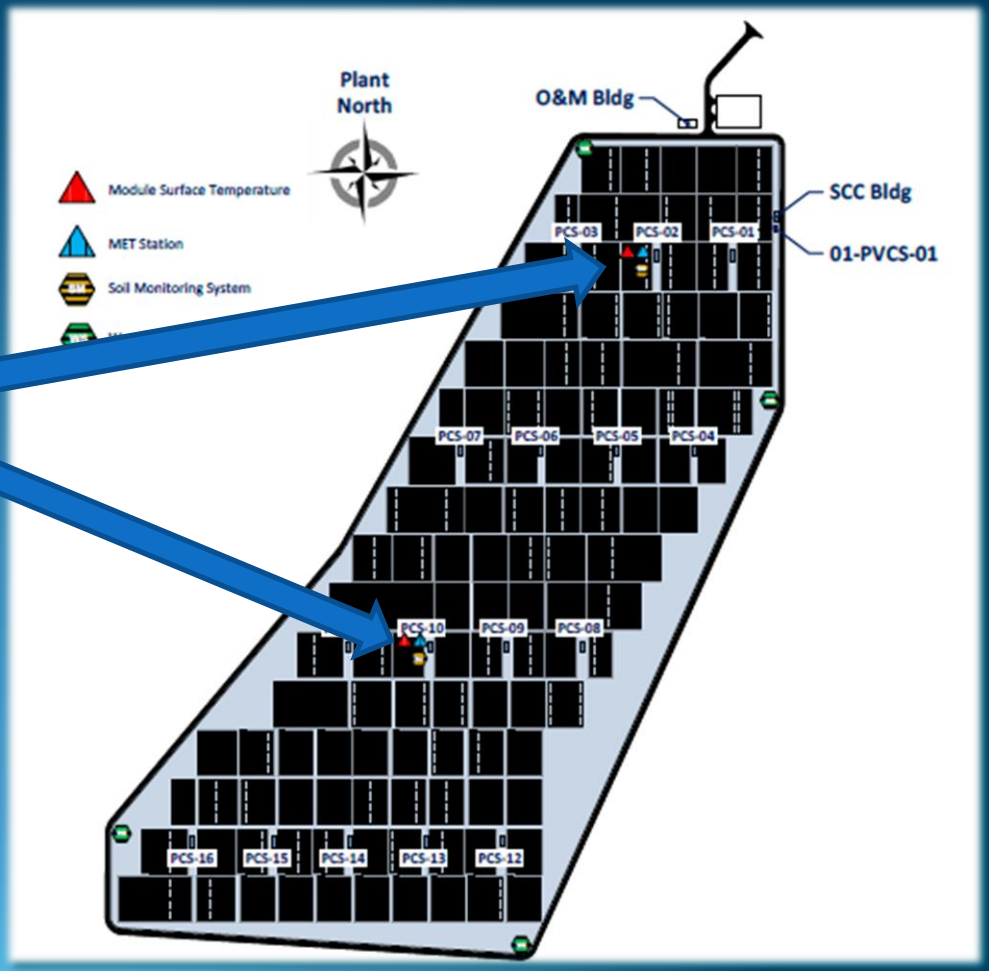
Input (DC)	
Max. DC power (@ cos φ = 1)	898 kW
Max. input voltage	1000 V
MPP voltage range (@ 25 °C / @ 50 °C at 60 Hz)	570 V – 820 V / 570 V – 820 V
Rated input voltage	570 V
Max. input current	1600 A
Min. input voltage / VMPP_min at IMPP < IDCmax	568 V
Number of independent MPP inputs	1
Number of DC inputs: busbar / fuses	Busbar / 6 – 9
Output (AC)	
Rated power (@ 25 °C) / nominal AC power (@ 50 °C)	880kVA/800 kVA
Rated grid voltage	360V AC
AC power frequency	60 Hz
Max. output current	1411A
Max. total harmonic factor	<5%
Power factor at rated power / displacement power factor adjustable	1 / 0.8 leading ... 0.8 lagging
Max. efficiency	98.7%
Protective Devices	
DC disconnect device	DC contactor
AC disconnect device	AC circuit breaker
DC overvoltage protection	Surge Arrester Type II
General	
Dimensions (W / H / D)	2562 / 2272 / 956 mm (101 / 90 / 38 inches)
Weight	< 1870 kg (4123 lb)
Operating temperature range	-25 °C... +50 °C/ -13 °F ... +122 °F
Noise emission	63 db(A)
Max. self-consumption (in operation)/Standby	< 1800 W / < 150 W
Max. permissible value for relative humidity (non-condensing)	15 % to 95 %
Max. operating altitude above mean sea level	2000 m
Fresh-air consumption (inverter)	3000 m^3/h

Transformador

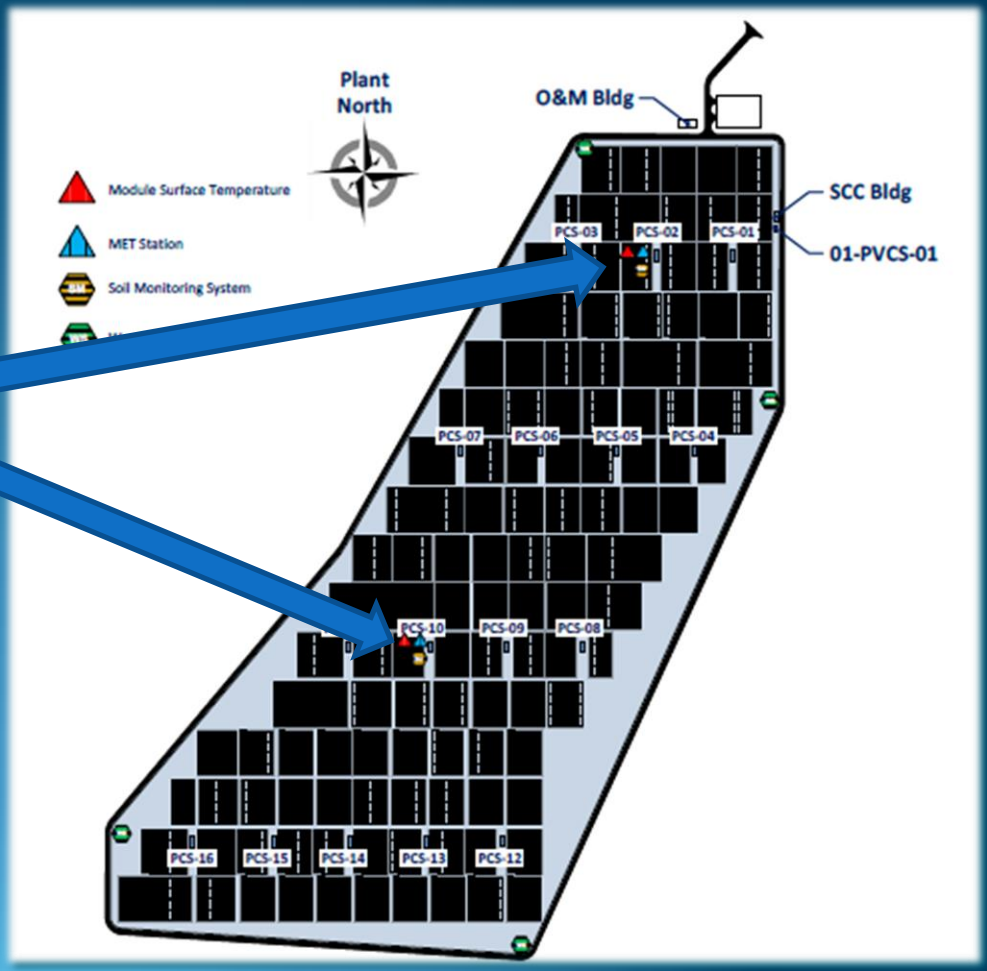
Transformador

Transformador

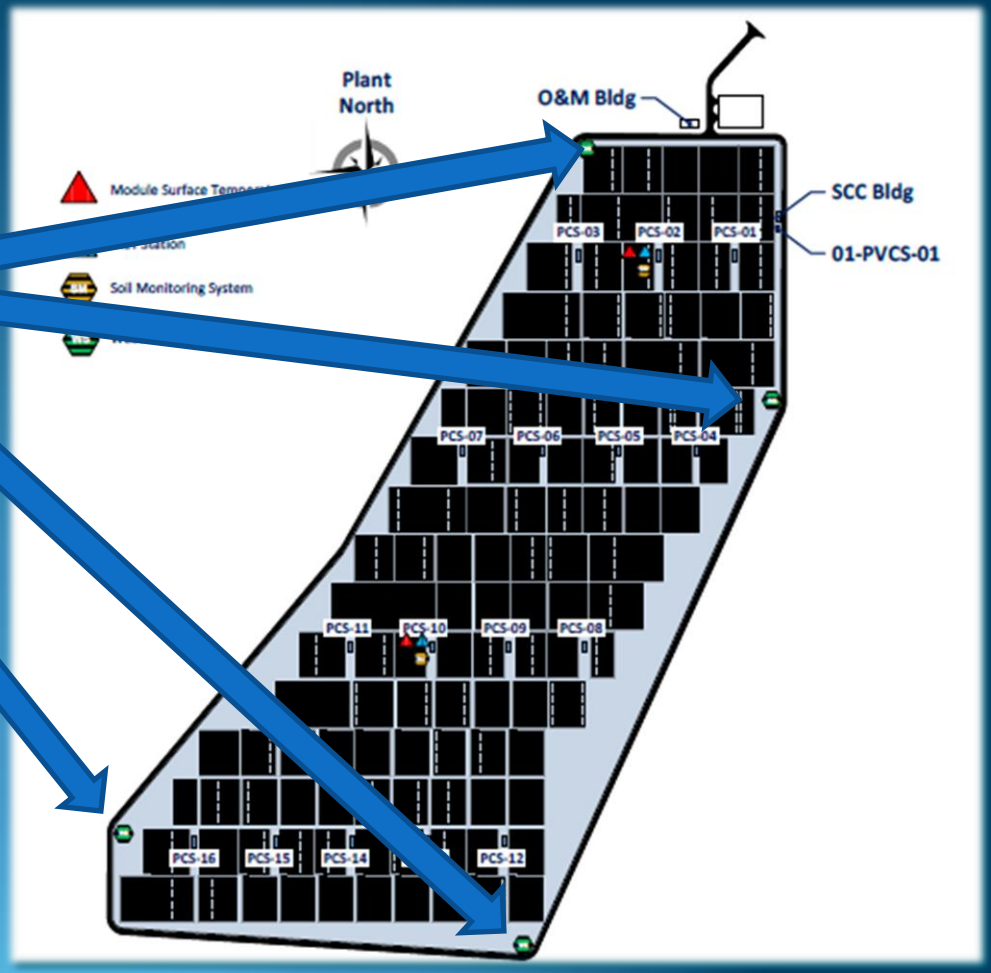
MET Station


Plant North
O&M Bldg
SCC Bldg
01-PVCS-01
Module Surface Temperature
MET Station
Soil Monitoring System
PCS-03
PCS-02
PCS-01
PCS-07
PCS-06
PCS-05
PCS-04
PCS-10
PCS-09
PCS-08
PCS-16
PCS-15
PCS-14
PCS-13
PCS-12

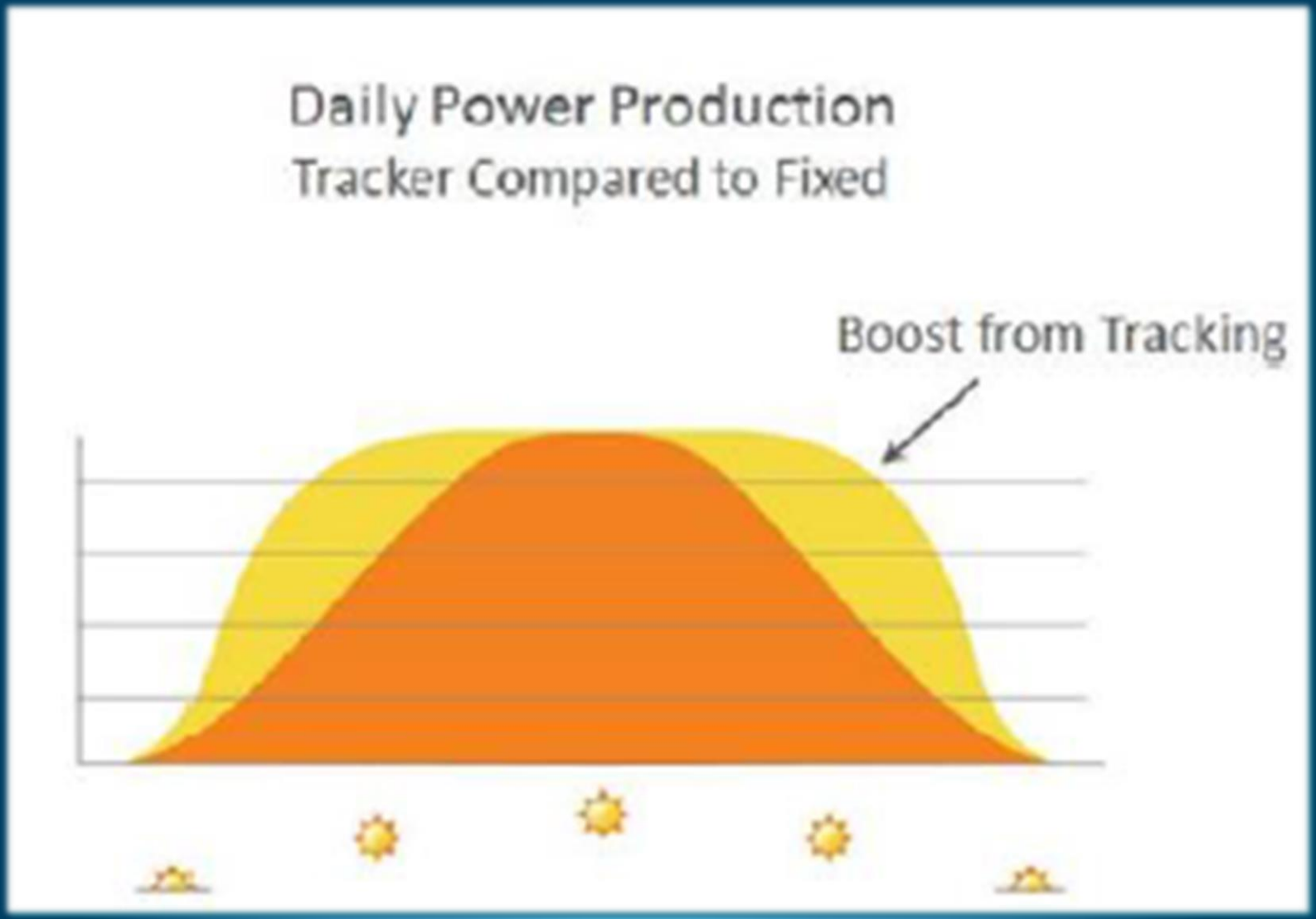
Soil Monitoring System



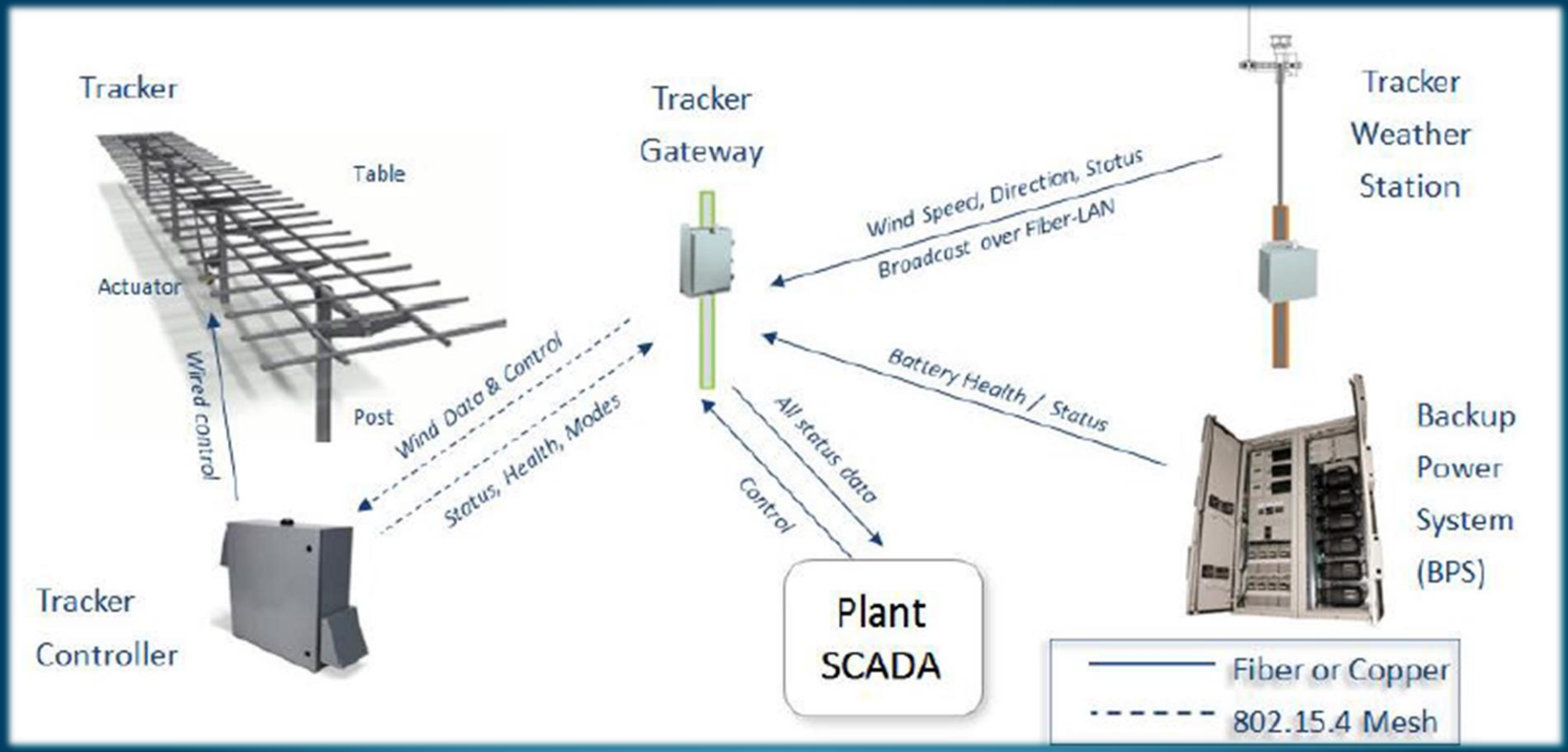
Weather Stations



Sistema de seguimiento

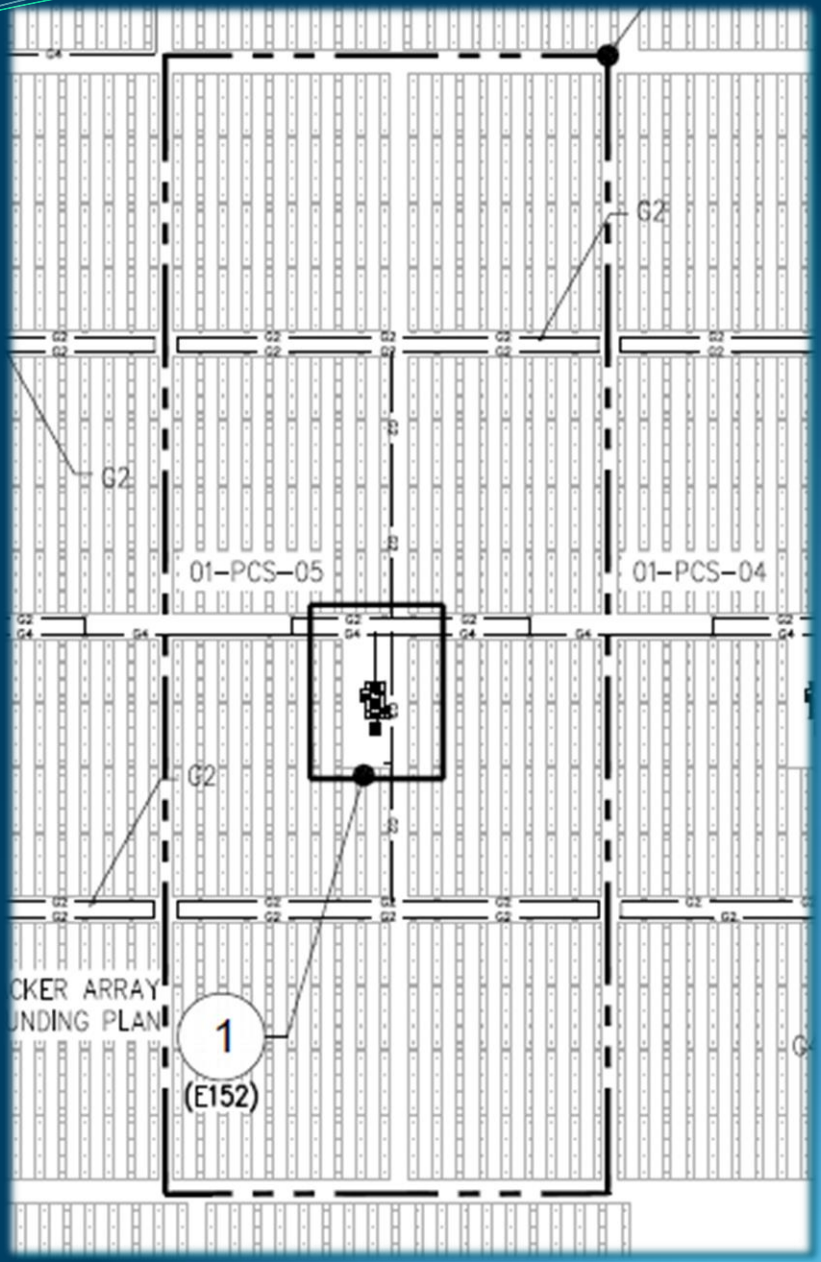


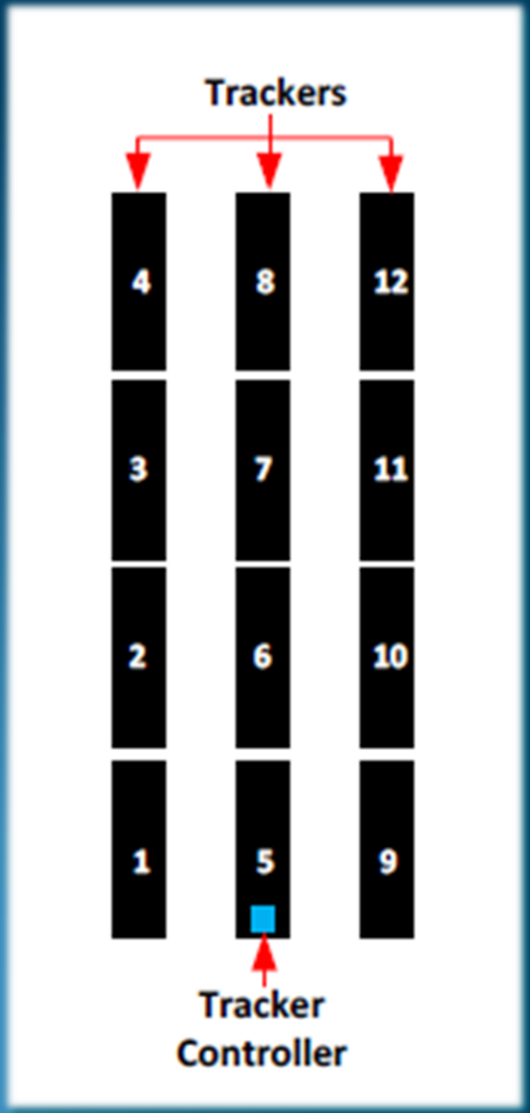
Sistema de seguimiento



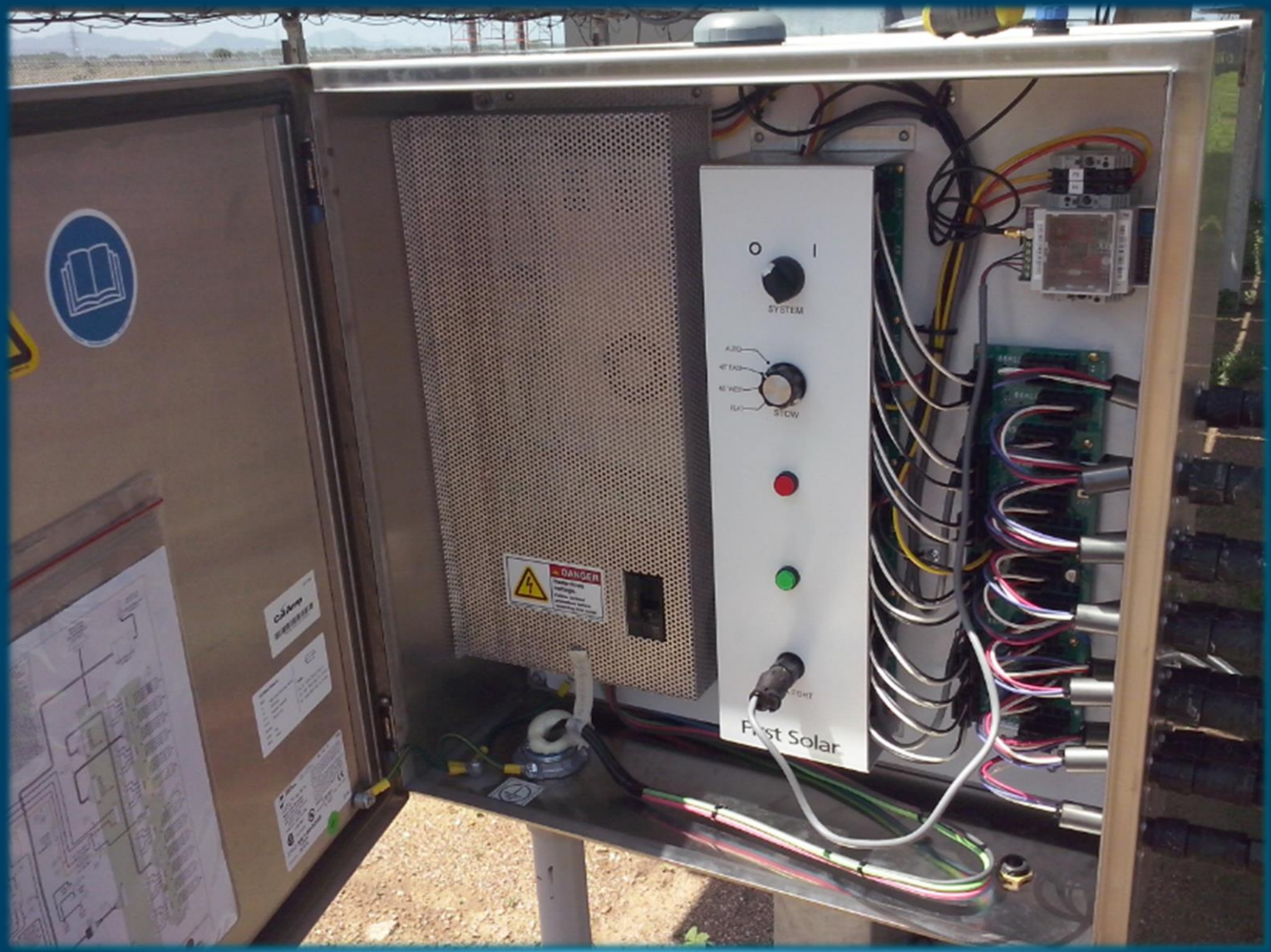
Sistema de seguimiento

Sistema de seguimiento

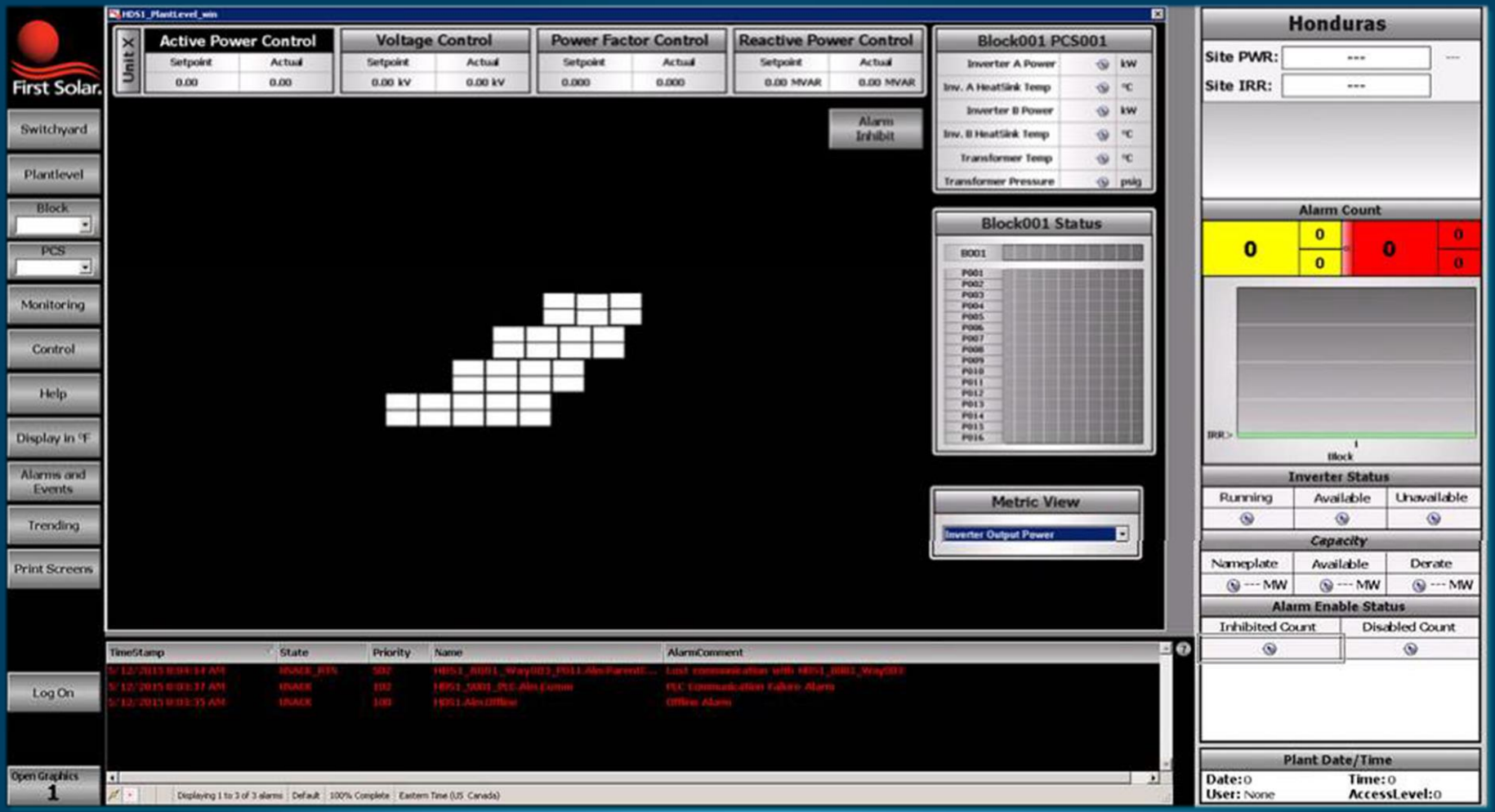




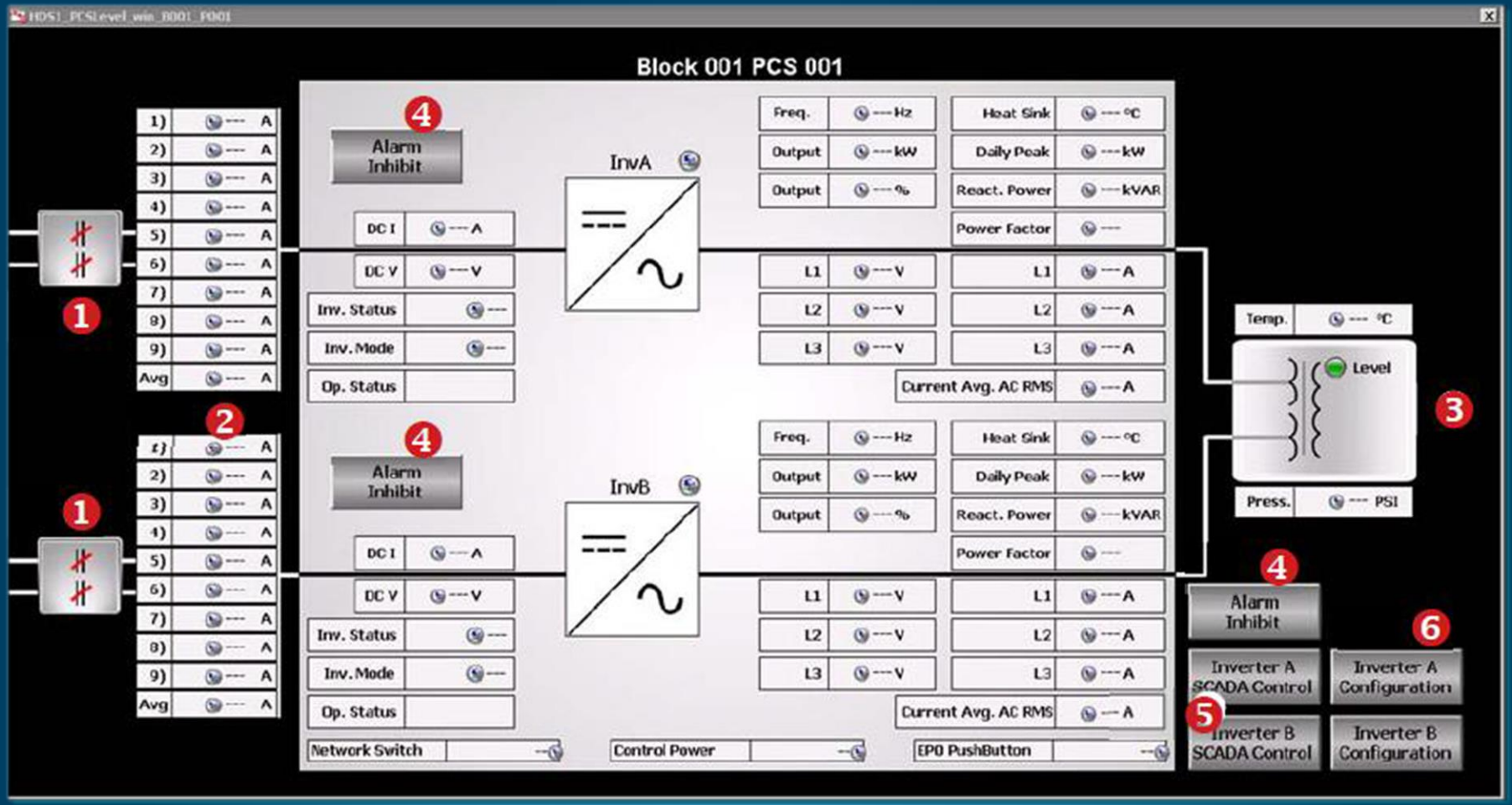
Sistema de seguimiento



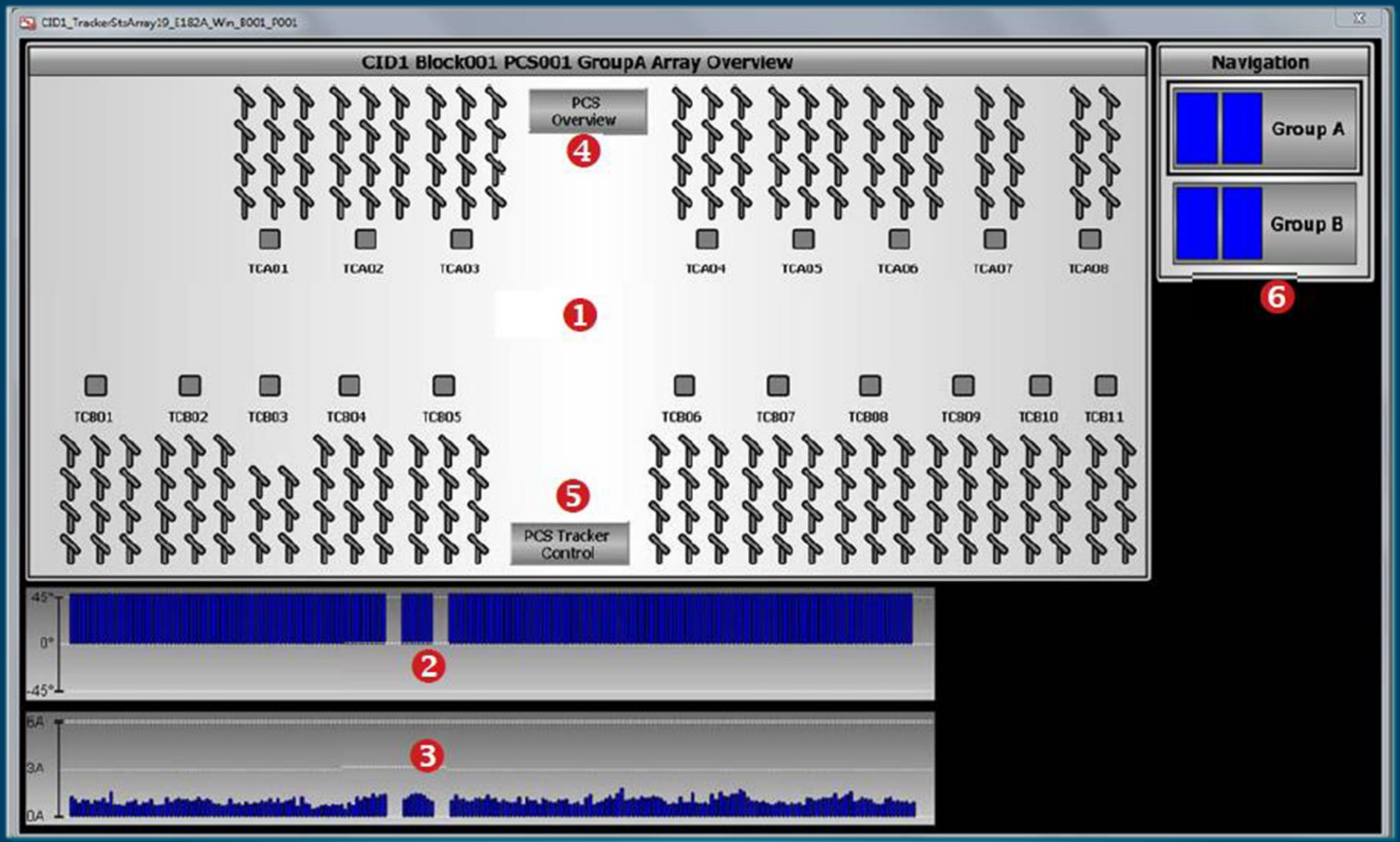
SCADA


First Solar
Switchyard
Plantlevel
Block
PCS
Monitoring
Control
Help
Display in °F
Alarms and Events
Trending
Print Screens
Log On
Open Graphics
1
Unit X
Active Power Control
Setpoint
Actual
0.00
0.00
Voltage Control
0.00 kV
0.00 kV
Power Factor Control
0.000
0.000
Reactive Power Control
0.00 MVAR
0.00 MVAR
Alarm Inhibit
Block001 PCS001
Inverter A Power
Inv. A HeatSink Temp
Inverter B Power
Inv. B HeatSink Temp
Transformer Temp
Transformer Pressure
kW
°C
psig
Block001 Status
B001
Metric View
Inverter Output Power
TimeStamp
State
Priority
Name
AlarmComment
Displaying 1 to 3 of 3 alarms
Default
100% Complete
Eastern Time (US Canada)
Honduras
Site PWR:
Site IRR:
Alarm Count
IRR>
Block
Inverter Status
Running
Available
Unavailable
Capacity
Nameplate
Available
Derate
--- MW
Alarm Enable Status
Inhibited Count
Disabled Count
Plant Date/Time
Date: 0
Time: 0
User: None
AccessLevel: 0

SCADA


Block 001 PCS 001
1)
2)
3)
4)
5)
6)
7)
8)
9)
Avg
A
Alarm Inhibit
InvA
InvB
DC I
DC V
Inv. Status
Inv. Mode
Op. Status
Freq.
Hz
Output
kW
%
Heat Sink
°C
Daily Peak
React. Power
kVAR
Power Factor
L1
L2
L3
V
Current Avg. AC RMS
Temp.
Level
Press.
PSI
Inverter A SCADA Control
Inverter A Configuration
Inverter B SCADA Control
Inverter B Configuration
Network Switch
Control Power
EPO PushButton

SCADA


CID1_TrackerStsArray19_E182A_Win_8001_P001
CID1 Block001 PCS001 GroupA Array Overview
PCS Overview
4
TCA01
TCA02
TCA03
TCA04
TCA05
TCA06
TCA07
TCA08
1
TCB01
TCB02
TCB03
TCB04
TCB05
TCB06
TCB07
TCB08
TCB09
TCB10
TCB11
5
PCS Tracker Control
Navigation
Group A
Group B
6
45°
0°
-45°
2
6A
3A
0A
3