Design 6 SERPRO Curitiba, -25.4117565,-49.2729837

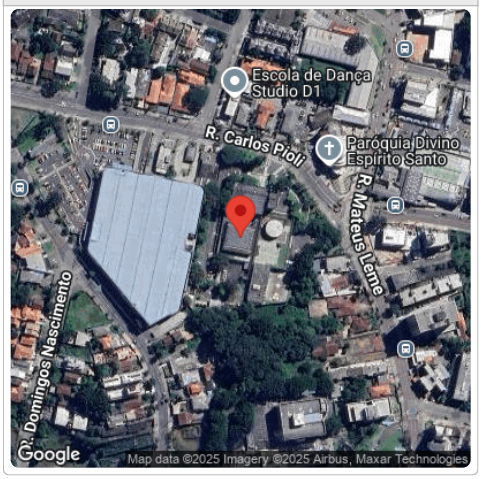
Report

Project Name	SERPRO Curitiba
Project Address	-25.4117565,-49.2729837
Prepared By	Mateus De Sordi mateusdesordi@gmail.com

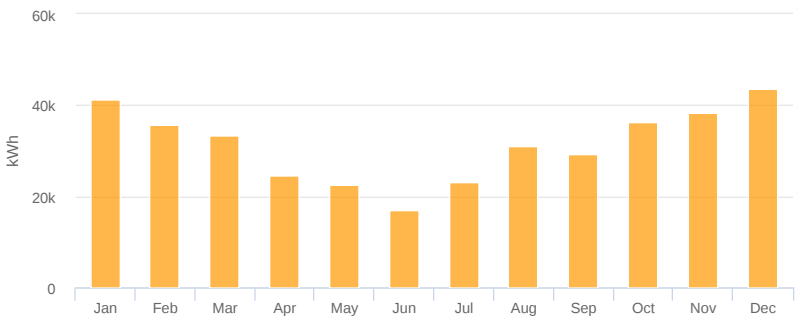
System Metrics

Design	Design 6
Module DC Nameplate	318.78 kW
Inverter AC Nameplate	275.00 kW Load Ratio: 1.16
Annual Production	376.1 MWh
Performance Ratio	78.9%
kWh/kWp	1,179.7
Weather Dataset	TMY, unknown, ECMWF/ERA (custom)
Simulator Version	87322a2f46-bff1331c88-32cfafba56-a1d144a9ed

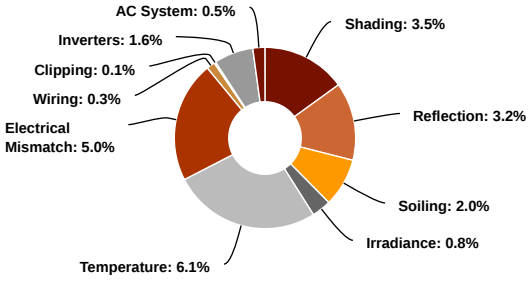
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,486.2	
	POA Irradiance	1,494.6	0.6%
	Shaded Irradiance	1,442.5	-3.5%
	Irradiance after Reflection	1,396.0	-3.2%
	Irradiance after Soiling	1,368.1	-2.0%
	Total Collector Irradiance	**1,367.9**	**0.0%**
Energy (kWh)	Nameplate	436,057.3	
	Output at Irradiance Levels	432,580.0	-0.8%
	Output at Cell Temperature Derate	406,119.1	-6.1%
	Output after Electrical Mismatch	385,786.3	-5.0%
	Optimal DC Output	384,446.1	-0.3%
	Constrained DC Output	384,191.9	-0.1%
	Inverter Output	377,949.6	-1.6%
	Energy to Grid	**376,059.9**	**-0.5%**
Temperature Metrics			
	Avg. Operating Ambient Temp	19.3 °C	
	Avg. Operating Cell Temp	32.6 °C	
Simulation Metrics			
	Operating Hours	4224	
	Solved Hours	4224	

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, unknown, ECMWF/ERA (custom)											
Solar Angle Location	Project Lat/Lng											
Transposition Model	Perez Model											
Temperature Model	Diffusion Model											
Temperature Model Parameters	Rack Type					U_{const}		U_{wind}				
	Fixed Tilt					29		0				
	Flush Mount					15		0				
	East-West					29		0				
	Carport					29		0				
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D
	2	2	2	2	2	2	2	2	2	2	2	2
Irradiation Variance	5%											
Cell Temperature Spread	4° C											
Module Binning Range	-2.5% to 2.5%											
AC System Derate	0.50%											

Module & Component Characterizations	Type	Component	Characterization
	Module	JAM72D42-630/LB (JA Solar)	Spec Sheet Characterization, PAN
	Inverter	SIW500G T075 W0 (380V) (WEG)	Spec Sheet
	Inverter	SIW500G T100 W0 (380V) (WEG)	Spec Sheet

Components

Component	Name	Count
Inverters	SIW500G T075 W0 (380V) (WEG)	1 (75.00 kW)
Inverters	SIW500G T100 W0 (380V) (WEG)	2 (200.00 kW)
Strings	6 mm2 (Copper)	29 (1,415.1 m)
Module	JA Solar, JAM72D42-630/LB (630W)	506 (318.78 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	5-19	Along Racking
Wiring Zone 2	-	5-19	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Portrait (Vertical)	Module: 5°	Module: 11.008775°	0.4 m	1x1	84	84	52.92 kW
Field Segment 4	Flush Mount	Portrait (Vertical)	5°	281.64673°	0.2 m	1x1	100	100	63.00 kW
Field Segment 5	Fixed Tilt	Portrait (Vertical)	Module: 5°	Module: 11.64674°	0.5 m	1x1	34	34	21.42 kW
Field Segment 4 (copy)	Flush Mount	Portrait (Vertical)	5°	101.64674°	0.2 m	1x1	132	132	83.16 kW
Field Segment 5	Flush Mount	Portrait (Vertical)	5°	281.28024°	0.2 m	1x1	80	80	50.40 kW
Field Segment 5 (copy)	Flush Mount	Portrait (Vertical)	5°	101.28023°	0.2 m	1x1	76	76	47.88 kW

Detailed Layout2

