Design 5 - sem limites SERPRO Porto Alegre -30.0381415,-51.2336214

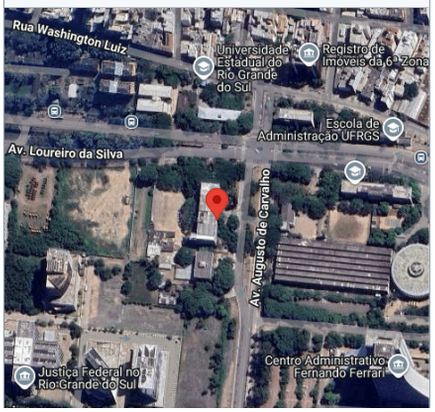
Project Details

Address	-30.0381415,-51.2336214
Owner	Mateus De Sordi
Last Modified	Mateus De Sordi a minute ago
Location	(-30.038094599999997, -51.23327180000001) (GMT -3)
Profile	Metálico WEG

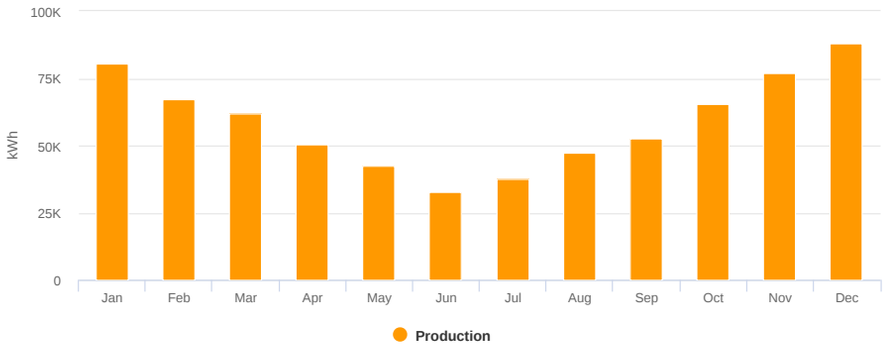
System Metrics

Design	Design 5 - sem limites
Module DC Nameplate	503.37 kW
Inverter AC Nameplate	400.00 kW Load Ratio: 1.26
Annual Production	703.9 MWh
Performance Ratio	80.9%
kWh/kWp	1,398.3
Weather Dataset	TMY, 10km Grid, Meteonorm 8 (meteonorm_v8)
Simulator Version	c48caa2351-44327059d6-a5eacfefcd-29f963356f

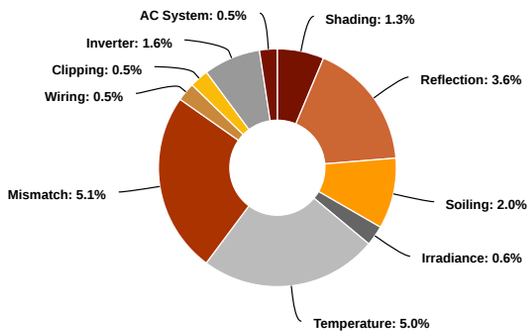
Project Location



Energy Consumption



System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,723.7	-
	Adjusted Global Horizontal Irradiance	1,723.7	-0.0%
	POA Irradiance	1,727.7	0.2%
	Shaded Irradiance	1,704.9	-1.3%
	Irradiance After Reflection	1,643.4	-3.6%
	Irradiance After Soiling	1,610.6	-2.0%
	Total Collector Irradiance	**1,610.5**	**-0.0%**
Energy (kWh)	Nameplate	810,665.1	-
	Output at Irradiance Levels	806,099.3	-0.6%
	Output at Cell Temperature Derate	765,665.7	-5.0%
	Output after Electrical Mismatch	726,628.8	-5.1%
	Optimal DC Output	722,829.7	-0.5%
	Constrained DC Output	718,981.8	-0.5%
	Inverter Output	707,416.5	-1.6%
	Energy to Grid	**703,879.4**	**-0.5%**

Temperature Metrics	
Avg. Operating Ambient Temp	22.6°C
Avg. Operating Cell Temp	32.7°C

Simulation Metrics	
Operating Hours	4,645
Solved Hours	4,645
Pending Hours	-
Error Hours	-

Condition Set

Description	Condition Set 1
Weather Dataset	TMY, 10km Grid, Meteonorm 8(meteonorm_v8)
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	29.00	0.00
Flush Mount	15.00	0.00
East-West	29.00	0.00
Carport	29.00	0.00

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	5.0%
Cell Temperature Spread	4.0°C
Module Binning Range	-2.5% to 2.5%
AC System Derate	0.50%

Component Characterizations

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

Design BOM

Component	Type	Quantity
SIW500G T100 W0 (380V) (WEG)	Inverters	4
JA Solar, JAM72D42-630/LB, (630W)	Modules	799
6 mm2 (Copper)	Strings	46

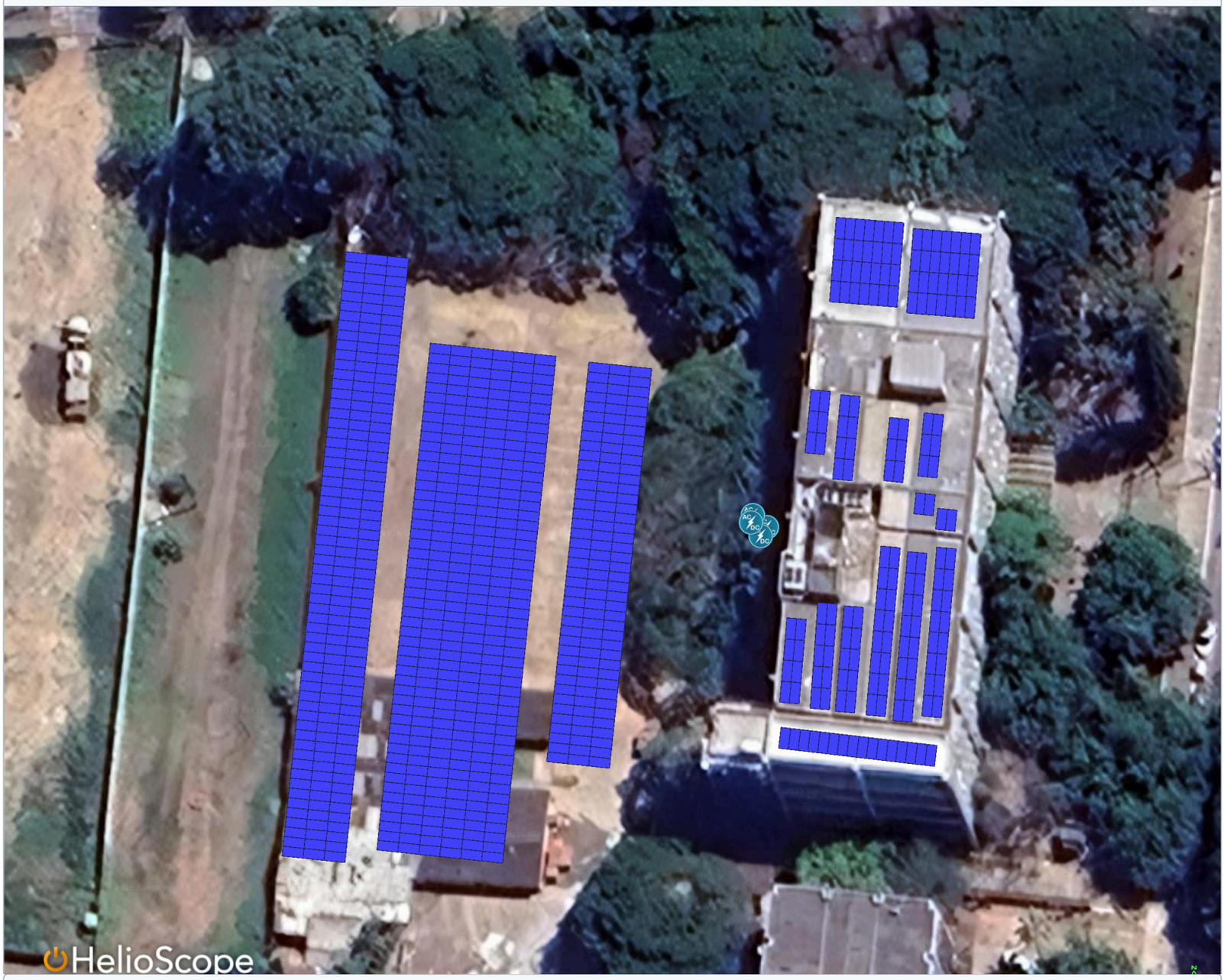
Monthly Shading

Month	GHI (kWh/m^2)	POA (kWh/m^2)	Shaded (kWh/m^2)	Nameplate (kWh)	Grid (kWh)
January	202.2	201.8	199.5	95,348.8	80,601.1
February	166.5	166.5	164.7	78,650.9	67,450.8
March	150.9	151.1	149.2	70,966.8	61,876.7
April	123.0	123.4	121.6	57,600.0	50,547.4
May	104.0	105.5	103.4	48,623.3	42,687.5
June	79.9	81.0	79.2	37,048.6	32,540.0
July	91.4	92.5	90.6	42,493.6	37,624.2
August	112.8	114.0	112.5	53,239.9	47,434.4
September	125.1	125.6	124.1	58,982.8	52,565.9
October	158.5	158.1	156.3	74,564.1	65,371.0
November	189.9	189.6	187.6	89,658.2	77,050.2
December	219.4	218.7	216.4	103,488.1	88,130.3

Design Wiring Zone

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

Design Render



Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1 (copy)	Flush Mount	Landscape (Horizontal)	5°	95.08°	0.0 m	1x1	16	16	10.08 kW
Field Segment 4	Flush Mount	Landscape (Horizontal)	5°	94.965°	0.0 m	1x1	8	8	5.04 kW
Field Segment 5	Flush Mount	Landscape (Horizontal)	5°	274.181°	0.0 m	1x1	10	10	6.30 kW
Field Segment 6	Flush Mount	Landscape (Horizontal)	5°	94.857°	0.0 m	1x1	10	10	6.30 kW
Field Segment 7	Flush Mount	Landscape (Horizontal)	5°	95.859°	0.0 m	1x1	2	2	1.26 kW
Field Segment 7 (copy)	Flush Mount	Landscape (Horizontal)	5°	275.859°	0.0 m	1x1	8	8	5.04 kW
Field Segment 11	Flush Mount	Landscape (Horizontal)	5°	275.482°	0.0 m	1x1	8	8	5.04 kW
Field Segment 12	Flush Mount	Landscape (Horizontal)	5°	95.496°	0.0 m	1x1	6	6	3.78 kW
Field Segment 13	Flush Mount	Landscape (Horizontal)	5°	94.623°	0.0 m	1x1	25	28	17.64 kW
Field Segment 13 (copy)	Flush Mount	Landscape (Horizontal)	5°	274.623°	0.0 m	1x1	25	28	17.64 kW
Field Segment 14	Flush Mount	Portrait (Vertical)	5°	6.664°	0.5 m	1x1	16	16	10.08 kW
Field Segment 1	Flush Mount	Landscape (Horizontal)	5°	95.08°	0.0 m	1x1	16	16	10.08 kW
Field Segment 1 (copy 1)	Flush Mount	Landscape (Horizontal)	5°	95.08°	0.0 m	1x1	16	16	10.08 kW
Field Segment 14	Carport	Portrait (Vertical)	5°	276.025°	0.0 m	1x1	312	312	196.56 kW
Field Segment 12 (copy)	Flush Mount	Landscape (Horizontal)	5°	95.496°	0.0 m	1x1	6	6	3.78 kW
Field Segment 14 (copy)	Carport	Portrait (Vertical)	5°	276.025°	0.0 m	1x1	186	186	117.18 kW
Field Segment 14 (copy 1)	Carport	Portrait (Vertical)	5°	276.025°	0.0 m	1x1	123	123	77.49 kW