

Case Study 4 - Flush mount system, Australia

Case Study 4 - Flush Mount , Australia, Jas Forwarding sydney

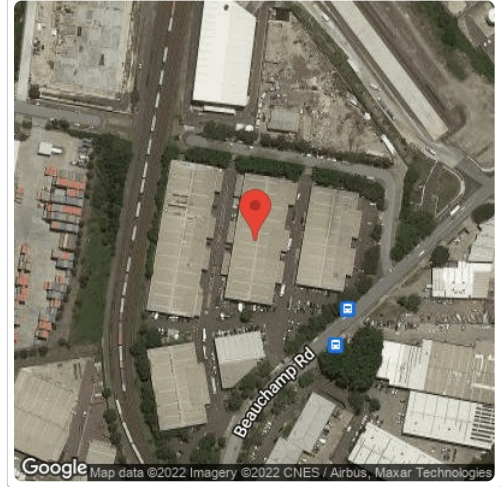
Report

Project Name	Case Study 4 - Flush Mount , Australia
Project Address	Jas Forwarding sydney
Prepared By	Bhanu Swaroop Gaddam gaddambhanu9@gmail.com

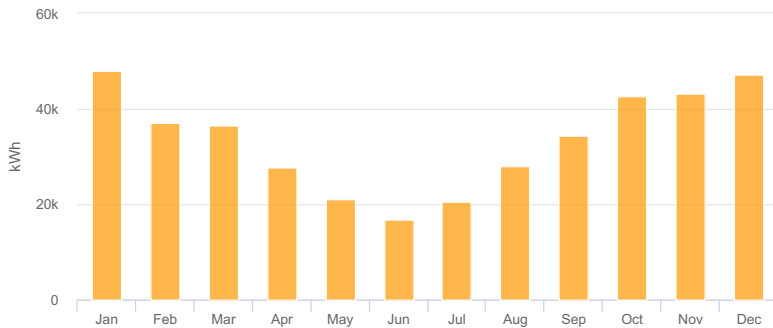
System Metrics

Design	Case Study 4 - Flush mount system, Australia
Module DC Nameplate	313.4 kW
Inverter AC Nameplate	300.0 kW Load Ratio: 1.04
Annual Production	403.1 MWh
Performance Ratio	78.7%
kWh/kWp	1,286.3
Weather Dataset	TMY, SYDNEY, IWECD Data (epw)
Simulator Version	77eaf2cdb5-02f2a7f506-20068b956b-d70d5f9ff0

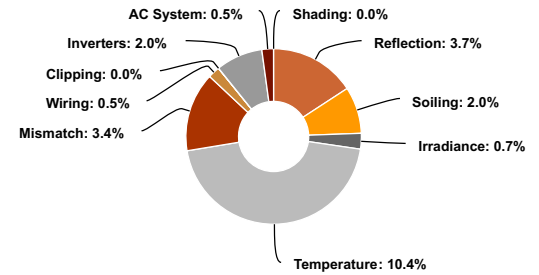
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	1,652.2	
	POA Irradiance	1,633.6	-1.1%
	Shaded Irradiance	1,633.6	0.0%
	Irradiance after Reflection	1,573.9	-3.7%
	Irradiance after Soiling	1,542.4	-2.0%
	Total Collector Irradiance	1,542.4	0.0%
Energy (kWh)	Nameplate	483,449.1	
	Output at Irradiance Levels	480,211.0	-0.7%
	Output at Cell Temperature Derate	430,082.1	-10.4%
	Output After Mismatch	415,539.1	-3.4%
	Optimal DC Output	413,441.8	-0.5%
	Constrained DC Output	413,401.1	0.0%
	Inverter Output	405,133.1	-2.0%
	Energy to Grid	403,107.4	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp		19.5 °C
	Avg. Operating Cell Temp		36.1 °C
Simulation Metrics			
	Operating Hours	4591	
	Solved Hours	4591	

☁ Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, SYDNEY, IWECC Data (epw)												
Solar Angle Location	Meteo Lat/Lng												
Transposition Model	Perez Model												
Temperature Model	Sandia Model												
Temperature Model Parameters	Rack Type		a		b		Temperature Delta						
	Fixed Tilt		-3.56		-0.075		3°C						
	Flush Mount		-2.81		-0.0455		0°C						
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 Characterizations	Module				Uploaded By		Characterization						
	TSM-DE14H (II) 370 (Trina Solar)				Folsom Labs		Spec Sheet Characterization, PAN						
Component Characterizations	Device					Uploaded By			Characterization				
	PVS-50-TL (Fimer (Formerly ABB))					Folsom Labs			Spec Sheet				

📦 Components		
Component	Name	Count
Inverters	PVS-50-TL (Fimer (Formerly ABB))	6 (300.0 kW)
Strings	10 AWG (Copper)	48 (13,629.8 ft)
Module	Trina Solar, TSM-DE14H (II) 370 (370W)	847 (313.4 kW)

🔌 Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	13-19	Along Racking
Wiring Zone 2	-	13-19	Along Racking

🏠 Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
North West Roof	Flush Mount	Landscape (Horizontal)	15°	279.49823°	0.0 ft	1x1	491	488	180.6 kW
South East Roof	Flush Mount	Landscape (Horizontal)	15°	99.52996°	0.0 ft	1x1	361	359	132.8 kW

Detailed Layout

