

Case Study 8 - Flush Mount, UK

Case Study 8 - Flush Mount, UK, Tq Express UK

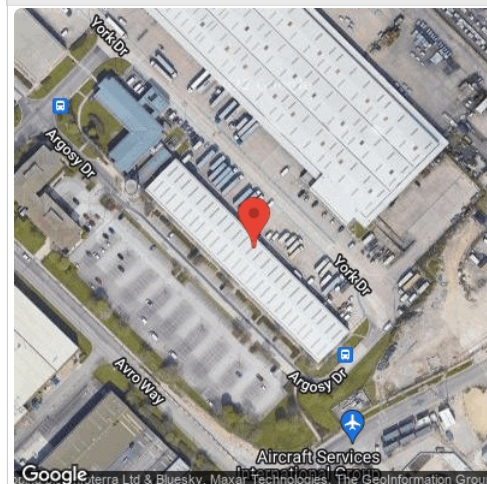
Report

Project Name	Case Study 8 - Flush Mount, UK
Project Address	Tq Express UK
Prepared By	Bhanu Swaroop Gaddam gaddambhanu9@gmail.com

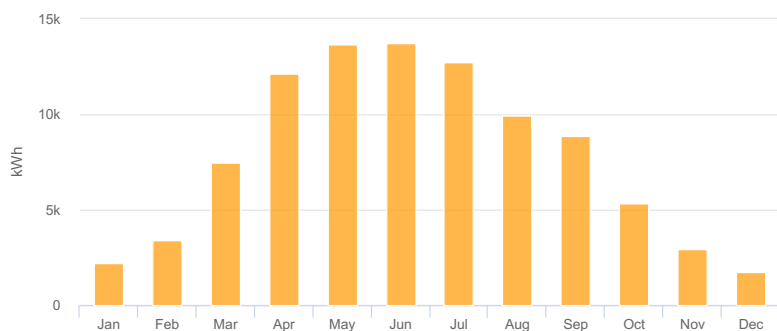
System Metrics

Design	Case Study 8 - Flush Mount, UK
Module DC Nameplate	126.0 kW
Inverter AC Nameplate	125.0 kW Load Ratio: 1.01
Annual Production	94.16 MWh
Performance Ratio	80.8%
kWh/kWp	747.3
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	77eaf2cdb5-02f2a7f506-20068b956b-d70d5f9ff0

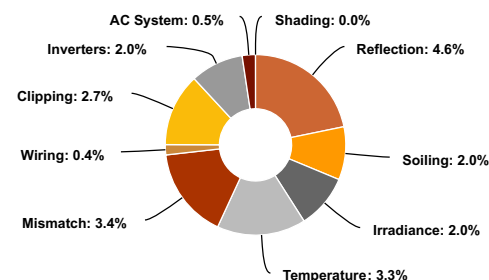
Project Location



Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	876.7	
	POA Irradiance	924.8	5.5%
	Shaded Irradiance	924.8	0.0%
	Irradiance after Reflection	882.5	-4.6%
	Irradiance after Soiling	864.8	-2.0%
	Total Collector Irradiance	864.8	0.0%
Energy (kWh)	Nameplate	109,013.2	
	Output at Irradiance Levels	106,791.4	-2.0%
	Output at Cell Temperature Derate	103,216.4	-3.3%
	Output After Mismatch	99,675.9	-3.4%
	Optimal DC Output	99,291.7	-0.4%
	Constrained DC Output	96,568.5	-2.7%
	Inverter Output	94,637.2	-2.0%
	Energy to Grid	94,164.0	-0.5%
Temperature Metrics			
	Avg. Operating Ambient Temp		12.3 °C
	Avg. Operating Cell Temp		21.8 °C
Simulation Metrics			
	Operating Hours	4585	
	Solved Hours	4585	

Condition Set

Description	Condition Set 1											
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)											
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				
	CS3L-350P (1000V) (Canadian Solar)	Folsom Labs						Spec Sheet Characterization, PAN				
Component Characterizations	Device	Uploaded By						Characterization				
	Eco 25.0-3-s (Oct15) (Fronius)	Folsom Labs						Spec Sheet Efficiency				

Components		
Component	Name	Count
Inverters	Eco 25.0-3-s (Oct15) (Fronius)	5 (125.0 kW)
Strings	10 AWG (Copper)	20 (5,644.1 ft)
Module	Canadian Solar, CS3L-350P (1000V) (350W)	360 (126.0 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	18-22	Along Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Flush Mount	Landscape (Horizontal)	10°	224.90858°	0.0 ft	1x1	360	360	126.0 kW

