



Your Solar PV System

Co-op Live Arena
1 Sports City Way
Etihad Campus
Manchester
M11 3DU

Operation & Maintenance Manual





Certificate

Site:	Co-op Live Arena
Address:	1 Sports City Way Etihad Campus Manchester M11 3DU
Tel:	
Project:	
PV Installer:	Aniron Renewables 44 Derngate Northampton NN1 1UH T: 01604 600677 E: support@aniron.org W: www.aniron.org
Key Components:	
Panels:	3275 x Q.Cells 400 W Modules
Inverters:	8 x SMA Inverters
Commissioning Date:	September 9 th 2024
Estimated System Output:	959,984 kWh/yr
Estimated CO2 Saving*: *Co2 savings based on 0.207 kgCO2/kWh	198,717 kg/yr

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O&M Manual v1.0

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1. System Data

The following section indicates the basic system information for the **1310.00 kWp** photovoltaic (PV) system. The solar PV installation has been designed in accordance with BRE IET guide: “Code of Practice for grid connected solar photovoltaic systems.”

1.1 Estimated System Performance

The following table indicates the estimated yield of the system using PVSOL Meteonorm methodology:

System Size	1310.00 kWp	
Predicted Output	959,984 kWh/yr	Predicted CO2 saved* 198,717 kg/yr

*CO2 savings based on 0.207 kgCO2/kWh

1.2 Basic System Information

The following table summarises the key system components:

Component	Manufacturer	Model	Comments
PV Panels	Q.Cells	Q.Peak DUO BLK M-G11 400	3275 Modules
Inverters	SMA	STP 110-60 CORE 2	8 Inverters Serial Numbers: A2342401255 A2342401300 A2342401365 A2342401346 A2342701591 A2342401253 A2342401299 A2342401372
Generation Meter	SMA	EDMM-10	1 Data Manager with 4 Meters



2. Operation & Maintenance Data

PV systems have low maintenance requirements. However, periodic maintenance routines carried out by the system operator can avoid faults and long downtimes, which in turn optimise the system yield further. The remote monitoring should be accessed on regular intervals to ensure the system is fully operational.

Furthermore, the monthly yield should be noted and checked once per month. These checks will help detect possible faults and hence maximise system yield.

2.1 Checklist for Optimum Performance

Check frequency		Operation without any fault display?
Monthly	Yield check	Log the meter reading regularly
	Assess PV array surface area	Heavy soiling? Leaves, bird droppings, air pollution or other types of soiling
Annually	Repeat measurements as during commissioning	Only to be carried out by a trained professional
	Cleaning of modules	Dependant on location and level of soiling present
If suspected	Modules	Peak output measured by a trained professional
	AC protective equipment	Line circuit breakers

2.2 Procedures for verifying correct system operation

Check that the inverters are ON, check LEDs of the inverters do not indicate any faults. Please refer to the inverter's manual for reference to inverter troubleshooting.

2.3 Checklist of what to do in case of a system failure.

If the inverter is signalling differently to the normal operation stated in section 2.2, then refer to the operational manual to diagnose the fault. A fault may be indicated due to the grid being down. In this scenario, the inverter will reconnect itself when the grid is back online.



2.4 Shutdown/Isolation and start-up procedures

The PV system has a number of switches. These can be used to isolate the whole system or components within the system. In case of shutdown, ensure that the main AC isolator switch is turned to the 'OFF' position and that the main PV board is disconnected, then ensure that all the system DC isolators located on the Solis inverters themselves are switched to the 'OFF' position.

For system start-up, turn the AC isolator switch to the 'ON' position. Then switch all the DC isolators to the 'ON' position. This will cause the inverter to initialise its start-up process and resynchronise with the grid. Once this is complete, ensure the inverter light has gone to continuous green (or off during night mode).

2.5 Maintenance & Cleaning Recommendations

2.5.1 Inverter

Please refer to the manufacturer's operator's manual. However, annual DC & AC electrical testing should be done annually by a qualified professional.

2.5.2 PV Modules

To ensure maximum output of the panels, they should be cleaned when necessary. Appropriate washing solutions are water and soapy solutions.

2.6 Considerations for any future building works adjacent to the PV array to avoid potential shading

2.6.1 Shading

The PV module array should not be shaded at any time by adjacent tree/foliage. The need to maintain the uninterrupted solar access to the panels should be taken into consideration in the event of any future additional building works.

3 Warranty

3.1 Aniron Renewables Warranty Information:

Please refer to the manufacturer's warranty documentation, but in summary:

- Inverters have a manufacturer's warranty of 5 years from the commissioning date
- PV modules have a product warranty of 12 years from the commissioning date & a 25 year performance warranty



4 What Happens Next?

- Aniron Renewables will contact the Distribution Network Operator (DNO) to notify them that the installation is completed and commissioned.