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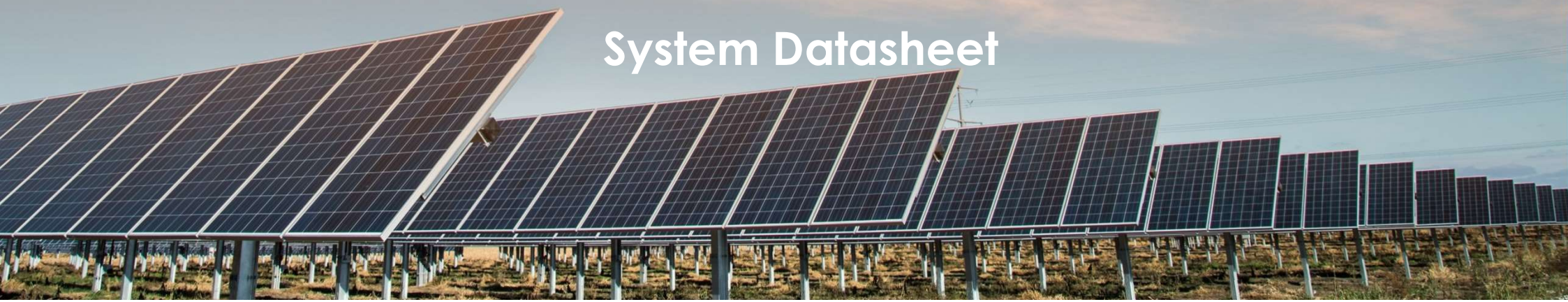
SUSTAIN COMPACT™

31,85 kWp Solar System with 51,8 kWh LiFePO4 battery storage

Custom made according to client's specifications



System Datasheet

System Overview

- ISO container transformed into a tough, sophisticated and insulated turn-key equipment package
- All equipment, including batteries, PV modules, structures and electronics are pre-installed and packed into the ISO container for safe and effortless transport
- PV inverters, battery inverters, distribution boards (DB) and monitoring equipment are fixed to the container wall with unitruts
- All modification done in line with seaworthy and ISO standards (CSC Certification done at shipping)
- Container modification and equipment installation done by Topshell (https://topshell.co.za/) – Quality Management System and Health and Safety system available

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Solar System Configuration

System Configuration	
Grid Supply Voltage	**400** V
Grid Frequency	**50** Hz
Battery Storage	**51,8** kWh Li-ion Ion Phosphate, 100% DoD*
Battery Inverter Power	**18** kWac (Instantaneous: 24 kW, 30 min)
PV Inverter	**25** kW (AC Capacity)
Installed PV Capacity	**31,85** kWp (Nameplate Capacity)**

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Component(s) Description

Breakdown of equipment being shipped

Sustain Compact System: NONU 9045062				
No.	**Item Name**	**Description**	**Unit**	**Qty**
Non-Hazardous Items				
1	20 ft ISO Container	Used, B-Grade 20ft Container for the Solar System	Pc(s)	1
2	Container modifications	Modifications inside the container for integration of the Solar System	Pc(s)	1
3	Electrical modifications	Modifications inside the container for integration of the Solar System	Pc(s)	1
4	Solar PV Modules	Q CELL Q.Peak DUO XL-G9.3, 455 Wp PV Modules	Pc(s)	74
5	Solar PV mounting structure for container roof	Steel and aluminium mounting structures for the installation of the PV modules	Set(s)	1
6	PV Fuse Box	10 x PV DC Fuses & fuse holders for the Solar System	Set(s)	1
7	SMA Sunny Island 8.0	Battery Inverters of the Solar System	Pc(s)	3
8	SMA STP 25000	Photovoltaic Inverter for the Solar System	Pc(s)	1
9	Battery Cabinet	7-way Cabinet for batteries for the Solar System	Pc(s)	1
10	DC Parallel Box	Battery disconnecting breaker of the Solar system	Pc(s)	1
11	Network Box	IT Infrastructure control for the Solar System	Pc(s)	1
12	SolarMD Logger V2	Data logger for batteries of the solar System	Pc(s)	1
13	Aircon unit	Recessed aircon with louver and remote control for temperature control of the battery room of the Solar System	Pc(s)	1
14	Main AC Distribution Board	AC Distribution Board with switchgears for the Solar System	Pc(s)	1
15	Grid Parrallel Box	Distsribution Board with switchgears for Grid connection of the solar System	Pc(s)	1
16	LED Light	Double-LED light tube for inverter room of the Solar System	Pc(s)	2
17	LED Light	Spotlight for battery room of the Solar System	Pc(s)	2
18	Electrical Spares	Additional items for installation and eletrical maintenance of the Solar System	Pc(s)	1
19	Mechanical Spares	Additional items for installation and mechanical maintenance of the Solar System	Set(s)	1
20	Siemens Fire Panel	Fire alarm panel and for configuring the fire detection system of the Solar System	Pc(s)	1
21	Siemens Fire detector	Multi sensor smoker detector for the solar system	Pc(s)	2
22	Mounting structrure fasteners	Bolts, nuts, clamps and washers for the mountings structures of the PV modules	Set(s)	1
Hazardous Items				
23	SolarMD SS202 Batteries	7,4 kWh LFP batteries for energy storage of the PV Solar System	Pc(s)	7

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Technical Specifications of equipment: Solar PV Panels

Q.Peak DUO XL-G9.3 – 455Wp PV Modules

- 6 × 26 monocrystalline Q.ANTUM solar half cells
- Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.9%
- Optimal yields, whatever the weather with excellent low-light and temperature behaviour
- High-tech aluminium alloy frame, certified for high wind loads (4000Pa).

SYSTEM & PRODUCT CERTIFICATES

DIN EN 61215-1 (VDE 0126-31-1):2017-05; EN 61215-1:2016
DIN EN 61215-1-1 (VDE 0126-31-1-1):2018-06; EN 61215-1-1:2016
DIN EN 61215-2 (VDE 0126-31-2):2019-02; EN 61215-2:2017+AC:2017+AC:2018
DIN EN IEC 61730-1 (VDE 0126-30-1):2018-10; EN IEC 61730-1:2018+AC:2018
DIN EN IEC 61730-2 (VDE 0126-30-2):2018-10; EN IEC 61730-2:2018+AC:2018
IEC 61215-1:2016
IEC 61215-1-1:2016
IEC 61215-2:2016
IEC 61730-1:2016
IEC 61730-2:2016

IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

TÜVRheinland CERTIFIED
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ID 1111220277

CE

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Technical Specifications of equipment: SMA Sunny Tri-Power

SMA Sunny Tri Power 25000 TL 25kWp - PV Inverter

- Scalability for maximum energy yields
- Maximum efficiency of 98.4 %
- Surge arrester (SPD type II)
- Cutting-edge grid management functions with Integrated Plant Control
- Reactive power available 24/7 (QonDemand24/7)
- DC input voltage of up to 1,000 V
- Multistring capability for optimum system design
- Datasheet available

Certificates and permits (more available on request)

* Does not apply to all national appendices of EN 50438

ANRE 30, AS 4777, BDEW 2008, C10/11:2012, CE, CEI 0-16, CEI 0-21, DEWA 2.0, EN 50438:2013*, G59/3, IEC 60068-2-x, IEC 61727, IEC 62109-1/2, IEC 62116, MEA 2013, NBR 16149, NEN EN 50438, NRS 097-2-1, PEA 2013, PPC, RD 1699/413, RD 661/2007, Res. n°7:2013, RfG compliant, SI4777, TOR D4, TR 3.2.2, UTE C15-712-1, VDE 0126-1-1, VDE-AR-N 4105, VFR 2014

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Technical Specifications of equipment: SMA Sunny Island

SMA Sunny Island 8.0H-12 - Battery Inverter

- Optimized data logging for maximum transparency, even without continuous online access
- Warranty period EXTENDED to 10 years
- Exceptionally high overload capacity ensures a safe electricity supply, even in critical situations
- IP54 for operation even in extreme environments

The certificate refers to the stated model(s) which passed the tests according to the applicable standard(s):

IEC 62109-1:2010, EN 62109-1:2010, DIN EN 62109-1:2011
Safety of power converters for use in photovoltaic power systems – Part 1: General requirements

IEC 62109-2:2011, EN 62109-2:2011, DIN EN 62109-2:2012
Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters

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Technical Specifications of equipment: Solar MD Battery Module

SolarMD SS 202 – 7.4 kWh Battery Modules

- Lithium Iron-Phosphate – high density streamlined storage
- Flexible modular design
- Dedicated Monitoring Platform
- TUV / CE / RCM / UL1642 Certification
- IEC 62619/UN 38.3/UL1642 Compliance
- Scalabiity and expansion up to 660kWh
- 10 year manufacturer warranty
- MSDS available on request - Hazardous content

Transport	UN3480 & UN38.3
Storage duration	6 months at +25 °C
Safety standard compliance	IEC 62619 / UN 38.3 / UL1642
Cell Certificate	TUV / CE / RCM / UL1642

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Technical Specifications of equipment: Schetter Mounting Structure

Schletter Mounting Structure

- Light weight galvanised steel and aluminum structure
- Container is equipped with a lightweight, quick and easy East-West orientation roof mounting structure
- Ground mounting with concrete foundation
- High level of corrosion resistance
- Packed in container for transport and assembled at site
- Certification available

Standard	**ISO 9001:2015**
Certificate Registr. No.	**01 100 110474**

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Technical Specifications of equipment: SMA Data Manager

SMA Data Manager - Ennex OS interface

- Monitor, analyze, parameterize and manage PV systems
- Simple integration of I/O systems and energy meters
- Live system status data
- Monitors communication to the portal
- Monitors inverter performance
- Weather information for location
- Allows fault detection remotely
- Datasheet available

Health and safety (RED, Article 3.1.a)	
EN 62311:2008	✓
EN 62368-1:2014 + AC:2015	✓
Electromagnetic compatibility (RED, Article 3.1.b)	
EN 301 489-1 V2.1.1	✓
EN 301 489-17 V3.1.1	✓
EN 61000-6-3:2007 + A1:2011	✓
EN 61000-6-2:2005	✓
Effective exploitation of frequency range (RED, Article 3.2.)	
EN 300 328 V2.1.1	✓
Restriction of the use of certain hazardous substances (RoHS directive, Article 4.1)	
EN IEC 63000:2018	✓

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System Design and Layout

Example Rendering of final system – On-site design

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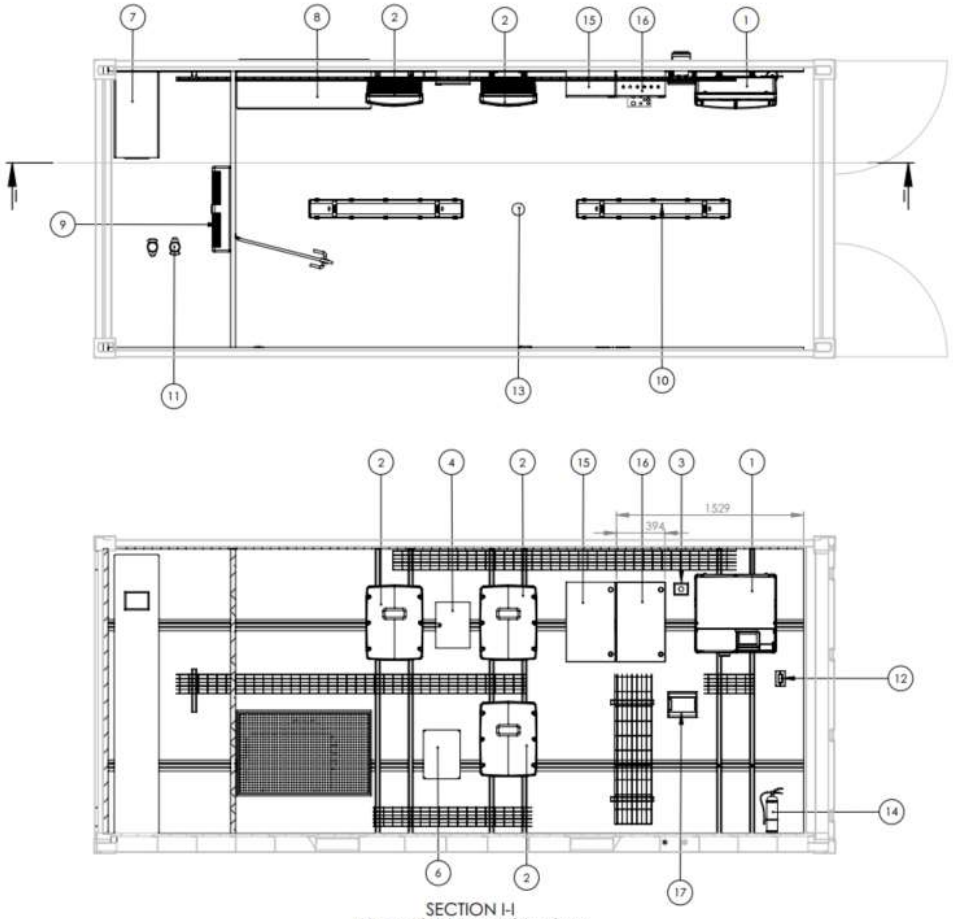
System Design and Layout

2D layout – On-site design



SECTION I-I
Interna right hand side view

Item #	Item Name	QTY
1	Sunny Tripower	1
2	Sunny Island	3
3	Internal box for the outside CCG	1
4	Network box	1
5	PV fuse box	1
6	Battery fuse box	1
7	Battery Cabinet	1
8	Aircon condensor unit	1
9	Aircon split unit	1
10	LED double light tube	2
11	LED spot light	2
12	Light switch	2
13	Smoke detector	1
14	Fire extinguisher	1
15	Grid box	1
16	Main DB	1
17	PV fuse box	1
18	Plug multi standard socket type F & G	2
19	Fan	1

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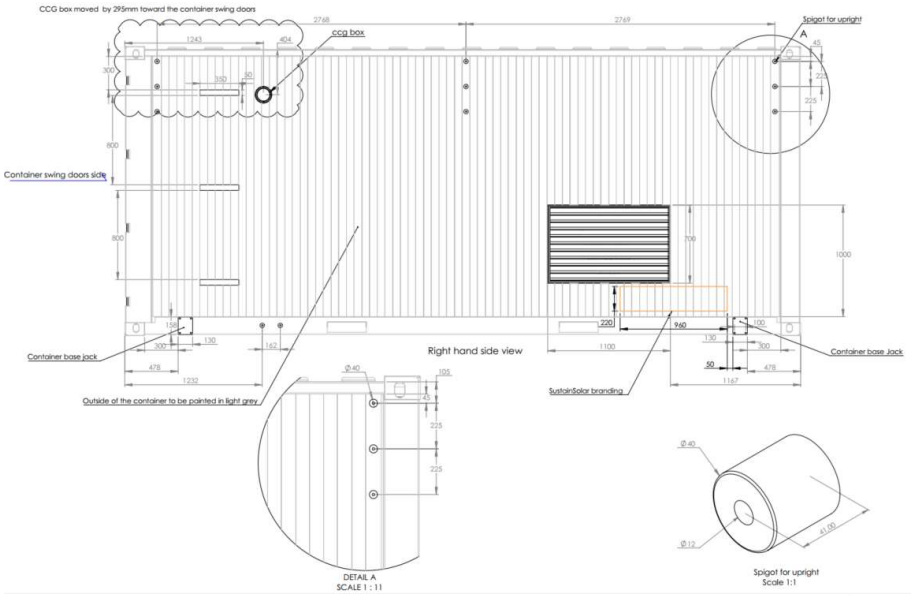
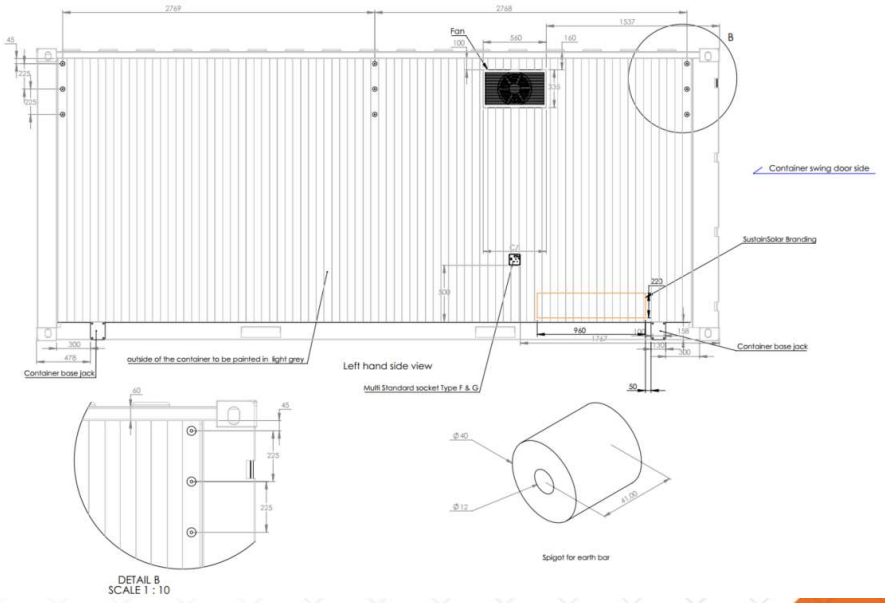
2D layout – On-site design





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