Solatainer® Designed for Construction

Solatainer® has been developed to provide an autonomous off-grid power supply, integrating renewable-power and storage with diesel-power back-up to reduce fuel consumption, carbon emissions and carbon footprint.

Created sustainably from a single-use 20ft ISO shipping container, Solatainer® supports a PV array, battery storage and a high efficiency diesel generator for energy security.

During daytime operation, the energy created by Solatainer®'s solar panels is harvested and stored in an on-board battery pack. The high efficiency generator is configured to run only when the batteries are depleted below a software-set limit or when a demand spike occurs.

A basic Solatainer® can be used as a direct replacement for a diesel generator in situations upto 20Kw. Beyond 20Kw Solatainer® is scalable upto 100Kw using Gaia's Solawedge® to increase the size of the PV array and by increasing on-board battery capacity through additional cells.

Solatainer® continues to impress industry leaders across the construction sector:

- *Owain Jones - Managing Director of TRJ, a construction company that focuses on public sector projects, commented; "Solatainer® has performed better than expectations. It's providing all the electricity requirements for a site office and welfare unit requiring a minimal amount of fuel when compared to the usual diesel generators we use. During the time we have used Solatainer® we have seen diesel consumption drop by 118 liters/week to 12litres/week!"*
- *Jamie Best, Managing Director of Melin Consultants a specialist BREEAM consultancy commented; "The important thing is that construction companies need evidence of power production and consumption that will contribute to their overall BREEAM credits - Solatainer®*

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gives them detailed information in graphical and tabular format." "Also for 'Considerate' Constructors, having Solatainer® on site demonstrates their green credentials.

Mechanical Properties

Dimensions (lxwxh)	6.06 x 2.44 x 2.59 (m)
Weight	3092 kg
Static Load	5400 Pa (snow) 2400 Pa (wind)
PV Module Cover	High Transmission Glass

Electrical Properties

Rated Power	20 kW
Maximum Apparent Power	25 kVA
AC Nominal Voltage	240v
Rated frequency/ voltage	50 Hz / 230 V
Max Output Current	32A
Operating range	−25°C/+60°C

Generator

Maximum Power	15 KVA
Rated Power	13 Kw

Energy Storage

Nominal Voltage	51.8 V
Capacity	From 126 Ah
Electricity Storage	From 15 kWh

Energy Saving Example

Using a basic 20Kw Solatainer® with a 4KW PV array, 12KWh Battery and 13Kw standby Generator:

- Deployed on Spring 2016 to power a Welfare Cabin and Site Office.
- Fuel Consumption pre-Solatatiner 370l/week.
- Fuel Consumption post-Solatainer 24l/week
- Annual saving £8996.
- Reduced CO2 Emissions by 48t/year.

CRH PLANT

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