

## CASE STUDY

Project: Henry Ling Ltd, The Dorset Press, Dorchester, DT1 1HD

### Project Summary

Henry Ling Limited is a leading manufacturer of journals and books. It is a family owned and managed private limited company which employs 120 people.



The installation consists of 270 No. 245Wp Sanyo HIT Photovoltaic modules mounted on a Renusol Intersole mounting system, connected via a Fronius CL 60 inverter, which is mounted on the south wall of the mezzanine printing area. The PV modules are configured as 27 strings of 10 panels connected to a String Controller. Monitoring is provided by a Fronius Datalogger Web.

#### Estimated Output Summary

|  |                 |
|--|-----------------|
| Estimated annual output  | 52,814 Wh/annum |
| Estimated annual income (FIT & Savings from reduced energy bills)        | £ 21,295 p.a.   |
| Estimated income (FIT & savings from reduced energy bills) over 25 years | £ 711,607       |
| Estimated annual CO <sup>2</sup> savings                                 | 28,731 kg p.a.  |
| Estimated CO <sup>2</sup> savings over 25 years                          | 650,427 kg      |

# Photovoltaic Installation

## System Description

Supply, installation, testing and commissioning of a 66.00kW Solar PV installation including:

1. PV system electrical design
2. Shade analysis
3. Structural analysis
4. Wind load analysis
5. Liaising with the DNO
6. Weather proofing
7. 270 No. Panel PV Installation using a Fronius CL60 Inverter
8. Fronius Datalogger Web

## Panel Specification

The 245Wp Sanyo HIT-H245E01 highly efficient monocrystalline solar cells with an attractive and robust black anodized aluminium frame.

- 25 year limited power output warranty
- Black anodized aluminium frame ensuring a stable mechanical life
- Anti-reflection glass enabling as much incoming sunlight as possible to reach the crystalline silicon
- 20.4% cell efficiency
- 17.7% module efficiency
- 177W/m<sup>2</sup>



## Fronius CL 60 Inverter

- maximum efficiency of 98.2%
- Excellent tracking efficiency with OptiTrac MPP tracking by SMA
- Bluetooth communication
- Triple protection with Optiprotect
- Electronic string fuse
- Self-learning string failure detection
- DC surge arrester (Type II) can be integrated
- DC input voltage up to 1000V
- Integrated grid management functions



## Fronius Datalogger Web

The Fronius Datalogger Web provides full system control via a PC. In combination with the Fronius Solar access software, Fronius Datalogger Web provides full setting options and data preparation for the PV system onsite via a PC.



With multi-user capability within the local network, it allows several users to access important system information simultaneously via a separate website – using a browser that is independent of the operating system. Real-time data is available online 24/7. For the first time, real-time as well as archived PV system data can be accessed worldwide via the bi-directional connection between Fronius Datalogger Web and the Fronius Solar web online service.

## Economic, Social and Environmental benefits

The solar array uses the sun's energy – this is an abundant natural resource. It is non-polluting, clean and sustainable. Solar energy is an important element in achieving the Government's commitment to reduce carbon dioxide emissions to 2.5% below 1990 levels by 2010. More specifically, it is Government policy to achieve 30% of the nation's electrical requirements from renewable sources by 2020; this proposal will help to move towards these targets.

There are many different benefits of installing solar PV systems, the main benefits are summarised below:

- Using a solar PV system can reduce or even completely remove the need to purchase electricity from your energy provider, thus reducing our reliance on pollutant fossil fuels.
- Installing a PV system is a big step towards reducing the carbon footprint of a building and aids the fight against climate change. The environmental benefits of PV solar energy are overwhelming as photovoltaics generate zero global warming gases. The feed-in tariff (FiT) is a substantial incentive which pays a generation tariff for every KW of energy produced by photovoltaics, with an additional export tariff for every unit for every unit sold back to the national grid.
- Solar PV systems are made from silicon, a derivative of sand, which is widely available.
- A solar PV system requires very little maintenance. There are no moving parts to the system so the potential for a problem to occur is very small, and should require nothing more than an annual clean and inspection.

## Photographs



## Testimonial

*“We had three quotes two from local companies such as Rentec and one from a national distributor. Rentec gave us confidence that they knew both the renewable aspect of the business and also the building side. Integrity of our roof was as important as a successful solar system and we felt confident of achieving both with Rentec. We use a large amount of electricity in our business and have a big south facing roof so Solar PV seemed the most logical option.*

*Some of my staff commented that the Rentec staff were some of the best installers we have ever had on site. There were some issues but these were overcome with the right attitude and we would not hesitate to recommend them.”*

**Helen Kennett, Managing Director, Henry Ling Ltd**