IMO

Case Study
A FOCUS ON IMO PRODUCT IN APPLICATION

i3 Intelligent Controller
Solar Thermal Solution

www.imopc.com

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The customer is a competent and successful designer and installer of solar thermal systems. On receiving an out of the ordinary large system enquiry he contacted IMO to discuss their range of combined HMI and PLC controllers. IYS Control Systems have been using the i3 range of controllers for 7 years, and as an IMO preferred integrator IMO introduced IYS to their client.

The system was a large solar thermal system. There are two linked systems, One of 100Kw and one of 50Kw. Both systems provide enough hot water during the summer months (also early and late in the year). Some initial tests show that the 100Kw system is producing closer to 200Kw of energy. The two systems are controlled by an i3X and an i3E. The i3X is a PC based HMI providing a 15" screen with a full graphic of the complete system over two screens. The screens provide the user and engineering staff with a complete system overview and a clear view of the system status at any time. There is data logging within the system to record various system operations so that historical data can be viewed to compare how the system has been operating.

The i3As have 4 high speed counters which were configured as PWM inputs and outputs. The two outputs controlled the primary and secondary pump speeds while the two inputs monitored the pump status by a clever use of a 75Hz PWM feedback signal showing the pump running and any faults such as jammed rotor or out of specification control voltage.

The system is currently undergoing installation testing and final commissioning with a view to being fully operational by the summer of 2017 when the building will be fully occupied.

It is planned for a remote diagnostic link to be installed in 2016 to allow full remote control of the system. This will also include full alarm monitoring with SMS and Email being used to export alarm data during out of office hours.