INDUSTRY: Renewable Energy
Solar energy management
Silicon Wafer Manufacture, France
Product: EPower Controller

invensys
Eurotherm

The LTC solution vastly improves the power factor. In real terms it could provide huge cost savings ahead of expected global government guidelines for cost saving and reducing energy bills whilst providing high quality production.

Jean Francois Vasta
Eurotherm consultant

Pioneering intelligent control for high performance solar cells

An exciting collaboration between our Italian Sales team alongside our French R&D and applications teams has resulted in a huge success with one of our customers for their Solar Panels.

An outstanding solution for our client, a world leader and pioneer of design & development of wafer technologies used for the manufacture of solar panels.

Our solution is a power control panel for reactor control. The panel controls immense levels of power - 1.7M Watts based on EPower technology and water cooled thyristors.
We have developed and tested a new LTC block application with EPower controllers allowing very accurate power control on multi tap transformers and perfect continuity of power during the transformer taps switches — the result is best in class.

The LTC is a method of improving the perceived power factor and harmonic distortion when controlling a load that is required to be driven in phase angle firing mode.

This is achieved by automatically switching a number of taps on the load transformer. This control can be performed on the primary of the transformer where the maximum tap voltage is the limiting factor or the secondary of the transformer where the max current is the limiting factor.

Our client were astounded by the quality and the stability of power control provided

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by EPower technology.

Their expectation was very high but our engineers pushed the boundaries exceeding this and creating a viable commercial solution born from the requirement of this specific project. This process has to be extremely accurate and the requirement is for absolutely no break in the power supply during the process.

We outstripped our nearest competitor whose offering was tailored and a more complex solution and less technologically advanced than our EPower solution.

Alongside this they were won over by the technical expertise and professionalism of our team who understood the complex requirement and rose to the challenge in providing an innovative solution
Without doubt this application is one of the best power solutions in the world today.

Goal

- Viable commercial solution in dealing with immense power without loss of stability or accuracy

Challenge

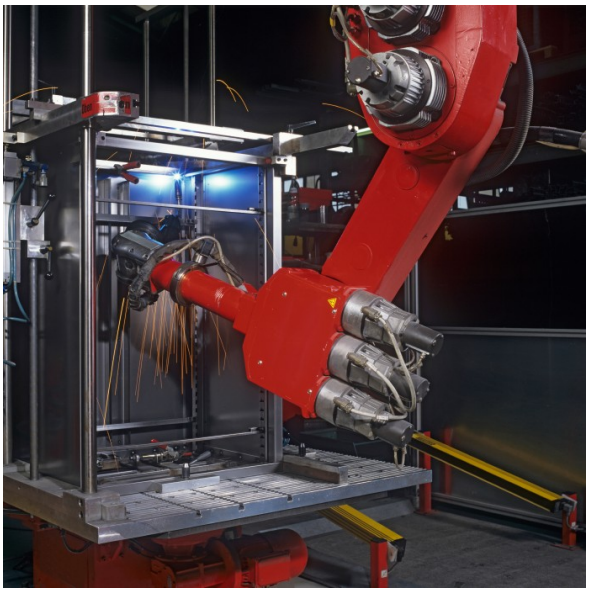
- Huge Power level control
- Developed and tested new LTC block application for the first time
- This process has to be extremely accurate
- There must be absolutely no break in power supply during the process

Solution

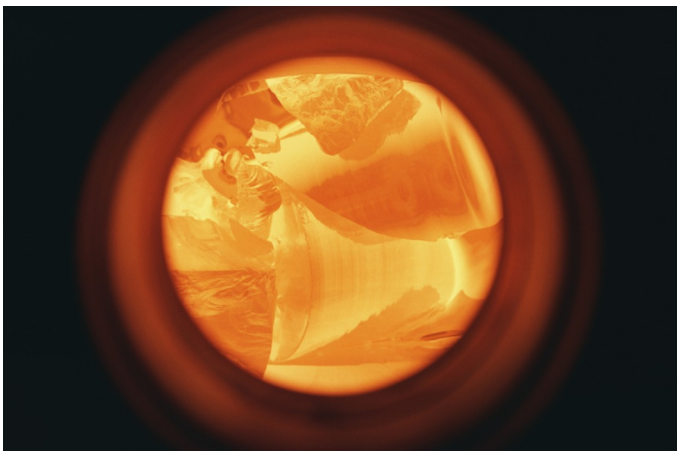
- Power control panel for reactor control
- New Load Tap Changing block application with EPower
- All enable manufacture of thin film solar modules.

Customer Benefits

- Unmatched accuracy stability and quality of power control with EPower
- Perfect continuity of power during the transformer taps switches. The Load Tap Changing application of EPower vastly improves power factor.
- Huge future cost savings expected to exceed expected government targets for energy cost savings
- Reduced energy bills
- Unaffected high quality production



Highly accurate processes involve state of the art automation



Granular polysilicon in melt phase

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One of best power solutions in industry today

A fusion of 40 years of technological development

- Simple thyristor load control matures to sophisticated EPower™ energy controller
- Reduces end user cost of energy with zero quality penalty
- Multi EPower systems provide reductions in CO2 emissions
- Award Winning. Engineers' Choice Award & Innovation award from The Franco British Business Awards sponsored by Barclays bank, leading French business newspaper Les Echos, UK Trade & Investment and VisitLondon.

Through sophisticated sharing and shedding techniques, the EPower controller's Predictive Load Management capability enables a reduction of facility-wide energy costs by providing more efficient distribution across a variety of loads and conditions.

The EPower controller's ability to continually and accurately predict, monitor and adjust to demand is creating more efficient energy production and distribution.

Company executives estimate that the solution could reduce energy costs by improving overall process efficiency by as much as 10%.

2008 ENGINEERS' CHOICE AWARDS

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