INTRODUCING:
THE INTELLIGENT TRANSFORMER

BRITISH FIRMS JOIN FORCES TO REVEAL INDUSTRY GAME-CHANGER

The smart transformer has arrived, combining two proven technologies in one revolutionary package. Electrical Review takes a look ...

The leading British manufacturer of transformers, Bowers Electricals, will unveil a revolutionary new system this April.

The Bowers Intellivolt is the result of a four year research and development project with leading voltage optimisation specialists iVolt and combines the best of the two companies' technologies to offer what Bowers believes are the greatest energy-savings on the market.

The patent-pending device which, crucially, is as compact as the rest of the Bowers range, offers customers the maximum possible electricity and carbon savings by integrating an award-winning voltage optimisation system into a Bowers B.E.S.T Super Low Loss distribution transformer.

In addition to the efficiency savings, the combined package also reduces losses, installation costs, cabling and maintenance issues. And with iVolt's patented Intelligent Real Time (IRT) Energy Monitor technology offered as standard, it enables users to pinpoint their energy savings accurately and in real time.

From April 1-3, Bowers Electricals will display the Bowers Intellivolt at Nemex - part of the Sustainability Live show at Birmingham's NEC. There, for the first time, the team will reveal how the groundbreaking new addition to the Bowers range is the ideal solution for HV connected customers who own their own distribution transformer, and for whom voltage optimisation is an effective money saving solution.

Bowers Electricals managing director, Michael Bowers, explained: "Even if a customer's transformer is one of the latest super low loss types, with all the added benefits - including the ability to drop the voltage by a fixed amount via a tap changer - further savings are possible by the addition of voltage optimisation. However, installing a separate voltage optimisation unit can be costly, take up valubale space and means an additional piece of equipment to maintain. The Bowers Intellivolt offers a simple, effective and also cost-effective solution and we're confident there isn't a system on the market that is capable of the same performance."

HOW THE BOWERS INTELLIVOLT SAVES MORE:
The Bowers Intellivolt transformer offers energy savings via two technologies ...

1 THE BOWERS B.E.S.T. SUPER LOW LOSS DISTRIBUTION TRANSFORMER

The main distribution transformer inside the Bowers Intellivolt is built using the same tried and tested technology that Bowers uses in the manufacture of its Super Low Loss Bowers Energy Saving Transformers (B.E.S.T.).

2 AWARD-WINNING VARIABLE REDUCTION VOLTAGE OPTIMISATION

Integrated into each Intellivolt is an award-winning fourth generation voltage optimisation system, made by iVolt, which monitors and reduces the incoming voltage to the optimum level for both energy efficiency and savings.

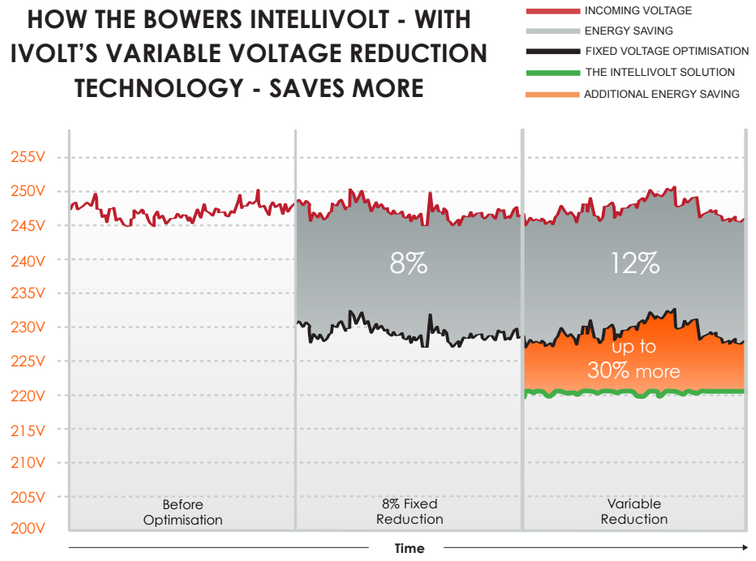
A typical industrial site in the UK will have an 11kV to 415V (on load) distribution transformer giving an output of 240V per phase and a limited adjustment of ± 2.5% and 5% on the HV side. This adjustment has to be done under isolated conditions via an off circuit tap changer, and so a high and variable input voltage will often be seen at the customer's LV output side. Over recent years this has led to the rise of many voltage optimisation companies who provide low voltage optimisation units specifically to control the voltage and combat this wasted energy. VO units are installed between the site distribution transformer and the client's low voltage equipment.

Using voltage optimisation units with electrical equipment such as refrigeration or air cooling devices, 3-phase motors, high-intensity discharge or fluorescent lighting has been proven to reduce energy consumption substantially and to create real financial savings as well as prolonging the service life of a lot of electrical equipment as a result.

If a client is interested in reducing their energy costs by replacing a site's existing distribution transformers with Super Low Loss Transformers - or has considered voltage optimisation - then the starting point is a site survey to identify the best solution for the client. All sites are different and the most appropriate energy-saving solution will depend on the client's network and types of loading.

A survey will be carried out by a highly-trained Bowers engineer and, where necessary, will include 3- phase power logging and analysis. The most cost-effective solution, the estimated energy savings that an Intellivolt smart transformer would achieve, and a predicted return on investment for all options will be estimated.

HOW THE BOWERS INTELLIVOLT - WITH IVOLT'S VARIABLE VOLTAGE REDUCTION TECHNOLOGY - SAVES MORE



BOWERS: PROUDLY MANUFACTURING IN BRITAIN

Proudly designing – and crucially still manufacturing - here in Britain, where our expertise and cutting edge engineering are world renowned, Bowers Electricals boasts a prestigious list of clients from across the public and private sectors.

The team has worked on projects everywhere from small industrial developments to major infrastructure schemes including large scale power stations, government buildings, hospitals, schools and universities, wind and solar farms and throughout the heavy power engineering industry.

Since its beginnings four generations ago as an electric motor and transformer rewinding business, the company has moved into the supply of new and refurbished power and distribution transformers, HV and LV switchgear and all manner of associated products and services.

Championing the use of British materials and suppliers whenever possible, the team designs, manufactures and supplies distribution and power transformers up to 45MVA at its headquarters in Heanor, Derbyshire.

Still managed day-to-day by the Bowers family that set it up, the company is now part of the Bowers Group of Companies which turns over in excess of £12million a year and employs 80 personnel.

See for yourself how Bowers Electricals is about to transform the industry by joining the team on stand J1 at Nemex - part of Sustainability Live at Birmingham NEC, from April 1-3.

For more information and a free site survey, call 01773 531531, visit www.bowerselec.co.uk or email the team at enquiries@bowerselec.co.uk

HERITAGE MEETS HIGH-TECH: While it was incorporated in 1947, Bowers Electricals is as high-tech as they come today. The picture on the right shows a new 8MVA 11kV to 69kV step-up grid transformer installed at a solar farm in Wales

Bowers
Electricals Ltd