

## ABB launches world's first low-voltage breaker to be used for energy management and smart grid communications

**Innovation can save energy equivalent to the electric consumption of 1.4 million European households and help to prevent blackouts**

Zurich, Switzerland, April 9, 2013 – ABB, the leading power and automation technology group, today launched Emax 2, the first low-voltage circuit breaker with integrated energy management functions. Replacing existing traditional breakers with the Emax 2 breaker has the potential to achieve annual savings of 5.8 million megawatt-hours (MWh). This is the equivalent electric consumption of 1.4 million EU households per year.

Please see [here](#) for an infographic on smart energy savings through the Emax 2.

These energy savings would reduce emissions by 4 million tons of CO<sub>2</sub>, or the emissions of over 1 million cars, per year. For an individual building installation, a peak power reduction of up to 15 percent can be achieved by using Emax 2 in place of traditional breakers.

Breakers like the Emax 2 are used where protection and control of large amounts of energy are used in a low-voltage environment like industrial and commercial buildings, data centers or ships.

Replacing an existing breaker with the new Emax 2 is technically simple. Due to energy savings, the Emax 2 breaker will typically pay for itself within a year.

The breaker contains a protection trip relay with an integrated power controller that measures and evaluates energy consumption, then manages the loads to maintain or reduce the peak power usage as determined by the user. This will also help prevent [blackouts](#) since the root cause is often peak demand exceeding supply.

To manage energy, the electricity supply to non-essential equipment is switched off and back on again as soon as acceptable power levels are reached. Intelligent decision making is achieved by a built in controller and software that uses complex algorithms to decide when it is appropriate to switch the power while maintaining the overall functionality or productivity of the connected equipment.

The breaker also has a communication module that allows it to share vital consumption and system reliability data directly with smart grid and other protocols.

“Breakers provide one of the largest untapped opportunities in the electric system to achieve energy savings. Breakers have been used to increase safety and protect electric circuits, but now for the first time we use them to save energy too,” said Tarak Mehta, Head of ABB’s Low Voltage products division.

“Because breakers are all around us, the total energy savings potential is massive. It’s a great example of how we can use smart technology to reduce energy wastage. This is good news for the environment and for our customers who can achieve significant cost savings by switching to our new device,” added Tarak.

The development of the new Emax 2 breaker took several years and was led by ABB’s development center in Bergamo, Italy.

# Press release



In 2012, ABB invested about \$1.5 billion in research and development and continues to employ 7,000 technologists worldwide.

ABB ([www.abb.com](http://www.abb.com)) is a leader in power automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 145,000 people.

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