

## **Leroy-Somer announces AREP+, an improvement of its auxiliary winding technology for the TAL alternator range.**

*AREP+ significantly improves the electrical performance of equipped alternators, including gains in motor starting capacity of up to 30%.*

*AREP+ will be progressively offered on the Leroy-Somer TAL industrial alternator range from November 2019.*

The new AREP+ system uses the output voltage of the main stator as H1 and a single auxiliary winding H3 inserted in selected slots of the main stator. The combination of these inputs is then used to power the controller, combining the power of a traditional Shunt system with the reliability and control level of an AREP system. Under the same conditions, more power is taken to supply the regulator, which increases the excitation capacity.

This excitation system is made possible by the improvements brought by Leroy-Somer to its range of regulators such as the R180 or the D350. The new regulators are able to process much higher voltage than with a standard AREP system without any risk for the excitation chain.

The AREP+ system improves the electrical performance of equipped machines, especially during transient short circuit, load shedding or load impact phases.

As a result, the starting kVA performances are improved by up to 30% depending on the generator models. This level of performance is decisive in situations where generators are used in an industrial context where electric motors must be started.

Because of its optimized design, the AREP+ technology also allows other performance improvements:

- Accelerated response time of the excitation chain, with an observed decrease of 20 to 30%
- Quicker startup of the excitation system, up to twice as fast with a theoretical start possible from 20 Hz.

"We are extremely satisfied with the performance of the AREP+ system," said Wenbin Ding, Low Voltage Product Manager "This new innovation is part of our commitment to offer reliable and efficient products with the TAL range, taking advantage of latest electric power generation technologies. It also proves that our strategy to grow our internal expertise around excitation systems is paying off."

During its development, the AREP+ system has been tested and subjected to a number of deforming loads. Under these conditions, the AREP + offers a remarkable level of performance, comparable to that which can be observed on a conventional AREP system.



The AREP+ technology has been tested and used by some Leroy-Somer OEM customers for several months, and the first feedback from the field demonstrated satisfactory levels of performance and reliability.

AREP + technology will be rolled out over the entire TAL range before the end of the year, and on the LSA range from the beginning of 2020. It replaces the current AREP technology, which will eventually be completely replaced.

### **About Leroy-Somer Electric Power Generation**

Leroy-Somer Electric Power Generation Europe and Asia Pacific (EPGE), a business unit of the Nidec Group, is a leader in industrial alternators with power ranging from 10kW to 25MW, focusing on Europe, Asia and Africa markets. With its two leading brand, Leroy-Somer and Kato Engineering, EPGE works with generator set manufacturers and electric power producers in these areas to help the industry provide reliable and efficient power solutions. EPGE has over 2,000 employees, 7 production sites worldwide and a global service network.

### **About Nidec**

Nidec, the parent company of Nidec Leroy-Somer Holding, was established in Kyoto, Japan in 1973 by its Chairman and CEO Shigenobu Nagamori. In 1979, Nidec became the first company in the world to successfully commercialize a direct drive spindle motor for HDDs based on a brushless DC motor. Since then, the company has grown into a world-leading comprehensive motor manufacturer encompassing more than 300 subsidiaries employing over 100,000 people throughout the world and with annual sales exceeding €11B. Nidec's motors, drives, generators and related products are found in a diverse range of applications including computers, smartphones, home appliances, automobiles, manufacturing plants, robots and more.