

NEWS

IN-HOUSE MAGAZINE OF J. SCHNEIDER ELEKTROTECHNIK NO. 33 | NOVEMBER 2022

EDITORIAL

Dear Readers of Schneider-News,

The news is currently dominated by the energy crisis and the shortage of resources. Climate change and the finite nature of fossil fuels triggered the change in the electricity policy years ago. But even in 2021, only about 20% of Germany's energy requirements was covered by renewable energies. Obstacles such as lengthy approval procedures for wind turbines, for instance, and the lack of grid expansion have repeatedly slowed down the pace of change in power generation. Today, thanks to the war in Ukraine and the trade conflict with Russia, we are struggling with severe shortages of gas and oil. As a result, we are being forced to drive the change in energy and heat supplies at a pace that has never been seen before. The need for this change requires no discussion, as the current situation has made abundantly clear to us.

And we, with our products and services, are part of this change. We are actively working on solutions for the sustainable and effective distribution and use of renewable energy in future markets such as wind power, photovoltaics, charging technology and hydrogen generation. From transformers to UPSs, we ensure safe and constant power

supplies for our customers. And we are always breaking new ground as we do so. We work closely with you, our customers and suppliers, to find the best solutions – for your task and for the environment.

We will be presenting a part of our product portfolio at the SPS trade fair. For a more comprehensive overview, please go to our new website www.j-schneider.de.

Do visit us at the trade fair and on our website. We look forward to seeing you.



Bettina Schneider



Rolf Anti

TRANSFORMERS

SCHNEIDER TRANSFORMERS IN TEST FIELD USE

Individually designed transformers are required for carrying out safety tests under realistic extreme conditions. Thanks to its comprehensive expertise and vast experience, the transformer team at J. Schneider Elektrotechnik is also one of the industry experts in this range of applications. For instance, J. Schneider supplied two medium-voltage transformers for a new DC test facility at the Institute for High Voltage Technology and Power Systems at the Technical University of Braunschweig. This new system is used to test safety technology for direct current under realistic conditions.

In DC systems, very high currents (up to thirty thousand amperes) can occur at medium voltages. The safety technology must be able to switch off a system safely. Before now, separate tests were carried out for current and voltage. Now, with the test field developed by the TU Braunschweig – which incidentally is the first of its kind – the safety technology can be tested in the combination of high current and medium voltage. It is still possible to carry out a test of several thousand amperes at 12,000 volts in this test field.

The two converter transformers supply the 12-pulse rectifier in the test field. They provide different output voltages, and are designed for surge control loading.



METHANOL FUEL CELLS FOR OFF-GRID POWER SUPPLY



The most common and best-known methods of off-grid power supply are emergency power systems operated by gasoline or diesel and battery systems, often supplemented by photovoltaic panels.

The disadvantages of these common methods are obvious. While it is only possible to generate electricity through a photovoltaic panel in the sun, i.e. during the day and in good weather, the noise and exhaust emissions of electricity generation with combustion engines pollutes the environment.

One safe, low-emission alternative, especially with very long buffer or supply times, is the methanol fuel cell, which is becoming increasingly important as an additional or backup power supply.

J. Schneider Elektrotechnik offers methanol fuel cells in three performance classes in this field:

- Systems of 50 – 250 W
- Systems of 500 – 1500 W
- Systems from 10 kW

Depending on customer requirements, the systems can be dimensioned as emergency power supplies for several hours or days and offered, for instance, in combination with accumulators or photovoltaic panels. Installation and maintenance complete the offer.

VOLTAGE STABILISERS WITH ULTRACAPS

We're all familiar with the airport baggage carousels that bring us our suitcases after a flight. And it is important that they work reliably in order to avoid unnecessary waiting times and annoying the passengers.

The automated conveyor belts are divided into different sections, each of which is driven by frequency converter (FC) controlled AC motors. The FC speed is synchronized for each section in order to guarantee the continuous transportation of the baggage items or to stop the belt when there is no more baggage on it. The motors are connected to an emergency power generator as protection against longer mains-side voltage disturbances.

However, problems are caused by sudden brief voltage dips. The system does not recognize them as such in advance, which means that the emergency generator does not start. They lead to a sudden change in the FC speed, which causes sections of the conveyor belt to stop running synchronously.



To bridge these voltage drops, the customer decided to use the J. Schneider USV *proTECTO* QC with ultra-capacitors.

The *proTECTO* QC acts as a voltage stabilizer to ensure 100% load bridging for up to 7 seconds in the event of a power failure of the incoming supply. This means it ensures a safe and undisturbed supply to the frequency converter and prevents a random reset to the FC operating speed. The ultra-capacitors installed inside the *proTECTO* QC supply 230 V AC – 1 kVA or 3 kVA, depending on the type. They are designed for continuous operation up to an ambient temperature of 40°C, so no additional cooling measures are necessary, and will last for 15 years at 40°C and 20 years at 35°C.



FREQUENCY CONVERTERS FOR GREATER ENERGY EFFICIENCY

The energy efficiency of electric drives is becoming increasingly important as the result of rising energy costs, climate change and resource shortages. More and more frequency converters are being used today to optimize the drives in an energy-efficient manner. However, even they are not wear free, but are affected by external influences, high tension and constantly changing load cycles.

Repairing a frequency converter requires specialist expertise and experience, something the specialists at the Service Centre for Electrical Drives have been able to fall back on for years. They specialize in the repair of motors as well as frequency converters, servo controllers, power converters and soft starters by various well-known manufacturers. This means that customers are offered the full-service package, from the motor to the control system, whether for express repairs, at our works or in on-site troubleshooting.

Measures have recently been taken with the spatial expansion of the Service Centre in Elgersweier and the design of a new test console to promote further development in this area and so cover an even wider range of services. So it is now also possible, for instance, to repair frequency converters in the upper power range.

Since supply bottlenecks are also an ever-increasing challenge, the company has expanded its storage capacities to include complete converters and their accessories by partners such as Siemens and SEW in addition to motor spare parts such as encoders.



HIGH-VOLTAGE AND PLASMA POWER SUPPLIES

NEW TRAINING AND STUDY OPTIONS

Constant new developments and adaptations of devices and software are the basis for successful cooperations with customers in the field of high-voltage power supplies. In order to support young students with the most practical education possible and to impart the specialist knowledge necessary for our field during their studies, J. Schneider offers various options for furthering in practice the theory acquired at university. With dual study courses, practical semesters, Bachelor's and Master's theses, students are introduced to practical topics such as high-voltage technology, applied power electronics, driver designs, transformers and chokes in project work. This includes in particular subjects such as safe and meaningful measuring, programming, standardization and layout design.

With Studium Plus, J. Schneider offers a new form of practical-orientated studies. The student completes IHK

(Chamber of Commerce) training (electronics technician for devices and systems at J. Schneider Elektrotechnik) while the same time studying at Offenburg University of Applied Sciences (Electrical Engineering & Information Technology). At the end of the 4½-year course, the student is a fully-qualified electronics technician for services and systems and holds a Bachelor of Engineering in Electrical Engineering & Information Technology.

Two years ago, Jonas Kiefer became the first trainee/student to take up this option. After focusing on training in the company and at technical college in the first year, the study course started in the second year. Now in the third year, Jonas is focusing on studies and practical work. A practical semester with the company, during which he is working on a project in high-voltage development, will be followed by another semester of full-time study. In the next practical semester, he will complete

all the preparations for the exam and the final examination for his skilled occupation. Then the last year brings the final theoretical principles at university and the Bachelor's thesis in the company.

The combination of practical experience within the company and the theoretical knowledge acquired at technical college gives students a great deal of practical experience. They are able to put the theoretical principles to the test in their practical work. The students are also given company-specific knowledge in the semester holidays as well during the practical stages. This kind of training has many advantages for both parties. Students are given the practical background that enables them to apply their theoretical knowledge. And at the end of the training time, there is no need for a long familiarization period in the company.

INTERNAL

„POWER ON“ FOR YOUR TRAINING IN 2022

Nine trainees embarked on their professional careers at J. Schneider on 1 September. After the first „Getting-to-know-you day“ and the introduction to etiquette for trainees, the young Schneider employees then went on to find out more about the various departments and their future professions.

Industrial management assistant:

Technical product designer:

Electronics technicians for machine and drive technology:

Electronics technicians for devices and systems:

Warehouse logistics specialist:

Yannick Sinz

Celine Pollzien

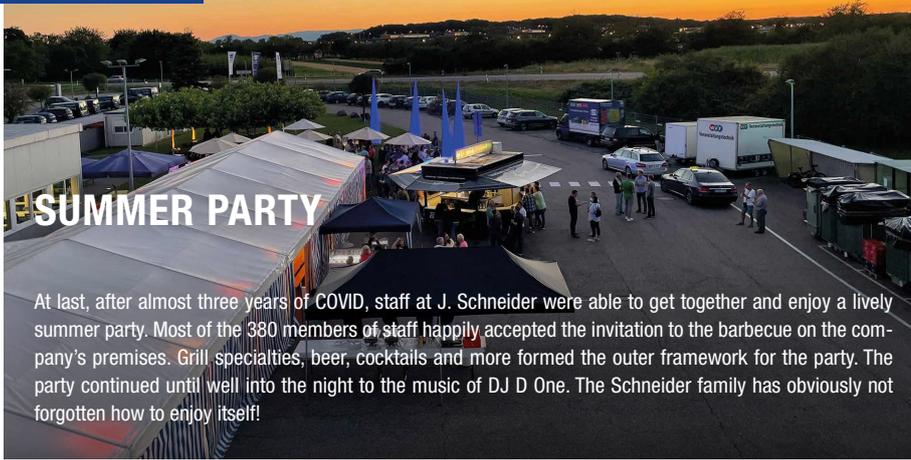
Daniel Brückmann, Silas Fischer, Johannes Heitz, Robert Schindler

Zaid Masri, Tom Schmidt

Emal Tanay



We wish everyone the best of luck and every success as they embark on their professional careers – as well as plenty of fun!



SUMMER PARTY

At last, after almost three years of COVID, staff at J. Schneider were able to get together and enjoy a lively summer party. Most of the 380 members of staff happily accepted the invitation to the barbecue on the company's premises. Grill specialties, beer, cocktails and more formed the outer framework for the party. The party continued until well into the night to the music of DJ D One. The Schneider family has obviously not forgotten how to enjoy itself!



J. SCHNEIDER ELEKTROTECHNIK HONOURS LONG-SERVING EMPLOYEES

Managing Partner Bettina Schneider and Managing Director Rolf Anti had the pleasure of honoring long-serving employees for a total of 645 years of service at a special celebration. They gave an entertaining and humorous review of the professional careers of these members of staff, and addressed personal words of thanks to each of the 26 honorees. „Without their cooperation and loyalty, to say nothing of their daily commitment, the company would not have experienced such a positive development,“ emphasized Bettina Schneider and Rolf Anti at the ceremony.

They expressed particular thanks to Isabella Katzmann and Jürgen Herrmann, both of whom had served the company for 45 years, and voiced their good wishes for their well-deserved retirements.

Isabella Katzmann, who had worked in administration at the Service Centre Electric Drives since 1976, expe-

rienced first-hand the company's transformation from its early days as a small trade business to a modern industrial company. She always accepted changes positively and adapted to them quickly, said Rolf Anti. And just how popular her friendly and open manner had made her over the years was confirmed yet again at the internal farewell party.

Bettina Schneider used the words „Jürgen, you were an era,“ to thank Jürgen Herrmann for his long professional life at J. Schneider. After finishing his training, he initially held various positions in the production department before being appointed commercial training manager in 2007. For more than 20 years he accompanied young people as they embarked on their professional careers and supported them during their training. In addition, he was elected to the Works Council in 1986, and became Chairperson in 2006. Bettina

Schneider stated that as the first full-time time chairperson he was always a loyal, committed and thoroughly combative partner with whom many important decisions were made. What is also unforgettable is his commitment as organizer and person responsible for the

many Schneider celebrations in recent years.

The two managing directors were agreed that in bidding farewell to Isabella Katzmann and Jürgen Herrmann, the company was saying goodbye to two long-serving, committed and loyal members of staff who will always be part of the Schneider family.

This is the full list of the honored members of staff:

10 years: Monika Vetter, Nadine Eschmann, Alex Moser, Markus Gorny, Dennis Ehret, Kerstin Braun

20 years: Sergej Günter, Gernold Bochinske, Kristina Ayoub, Valentina Fütterer, Sylke Schreier, Alexander Faist, Ute Behra

25 years: Markus Walter

30 years: Georg Litterst, Elvira Heini, Lothar Waidele, Frank Schwendemann, Frank Zapf

35 years: Rüdiger Brust, Berhane Negash, Thomas Lurk, Werner Fraas

40 years: Thomas Maennel

45 years: Isabella Katzmann, Jürgen Herrmann



Senior partner Karl Schneider, Managing Partner Bettina Schneider and Managing Director Rolf Anti with the honorees.

LEGAL INFORMATION

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