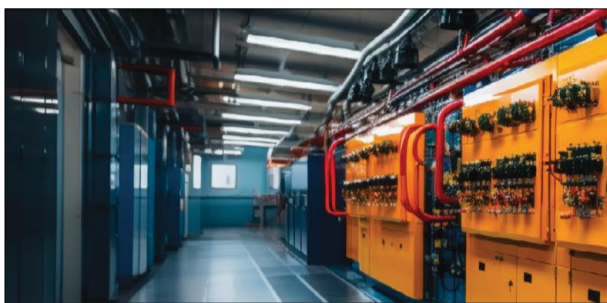


## HELLERMANNTYTON'S NEWLY UPGRADED WAREHOUSE AND OFFICE PARK OFFICIALLY OPENS FOR BUSINESS

Electrical giant HellermannTyton South Africa has been hard at work over the past few months – and anyone who has been to its facility in northern Johannesburg knows what has been rising from the ground: An updated and upgraded new wing to the company's warehouse



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HellermannTyton's newly expanded warehouse facility is aesthetically pleasing and functional, adding much-needed space for the business's expansion.



The 'old' HellermannTyton warehouse was still a tremendous construction, but business growth demanded more space.



Initial demolition and site construction took six months, with the final fitting taking place in April 2024.



The new warehouse is 58% larger than the previous facility, with planning in place for future growth and additions.

building. Natasha van de Loo, the marketing assistant at HellermannTyton South Africa, talks us through the changes.

#### What was the reason for the expansion?

There are multiple factors that led to the expansion of our warehouse. First and foremost, the market demand for our products grew to the point where we simply had to increase the storage space we use to house locally manufactured goods. It also became evident during the redesign that larger working areas were going to be crucial to both process and dispatch sales orders.

We use large volumes of raw material that must be readily available and onsite for use in the manufacturing process.

Previously we did not have the space to store the raw material on our premises. Our business's current growth and ventures also necessitated additional warehouse space.

#### How did the construction and fitting of the new warehouse affect the business ecosystem?

An important consideration on our end was to ensure little to no disruption on our manufacturing processes during the months of construction. Our ability to manufacture and remain consistent with day-to-day quotas was crucial throughout the process. Through meticulous planning and management, and a strong, reliable construction team, we were able to control the expansion without any disruption to our daily outputs and our ability to respond to current market needs.

As part of the expansion process, new department locations were created to house our team – what remained a priority was that employees experienced minimal disruption throughout the process.

#### How long did the planning and actual construction phases take?

The planning, design and approval for the expansion was a two-year process. The building, from the beginning of demolition, to erection, took approximately six months,

beginning in June and ending in December 2023. Fitting the warehouse with racking and furniture was fully completed by early-to-mid May 2024, with our grand opening being held at the end of the month.

#### What is the new capacity compared to previously in terms of staff size and manufacturing?

The main warehouse has increased by approximately 1 500m<sup>2</sup>. The expansion has provided for an additional 2 352 pallet spots, which amounts to a 58% increase in warehouse capacity.

The new space allows us to change our storage method from solely categories to types of packaging and categories. The current warehouse layout was re-configured to increase packing and factory holding areas for finished goods – we also doubled the area for the factory to 150m<sup>2</sup> and created an additional 120m<sup>2</sup> of packing and consolidation area. We have also made plans for a ground-floor undercover storage area that welcomes a further 288m<sup>2</sup> of additional space. This new capacity will enable more efficient and streamlined manufacturing capabilities.

#### What makes the expansion more than just 'a brick and cement' extension?

The expansion is much more than just a brick and cement extension – the physical building is impressive and incorporates modern technology that makes our day-to-day operation easier. It is testament to HellermannTyton's growth and continued success, and it serves as an important milestone paving our way forward towards new opportunities and projects.

#### How will customers benefit from this new upgrade?

Customers will benefit from the expansion through our increased capabilities and efficiency, as well as strategic plans that are in place to support our business's growing needs. The new warehouse space allows us to allocate and ensure that the correct stock volumes are easily accessible, increasing our ability to respond to customer needs and maximising our opportunities and company's competitive edge.

#### What are the implications on energy consumption?

As part of the warehouse extension, we included the use of new machinery that will improve energy consumption. To offset our energy consumption, we recently installed 700kW of solar power that accounts for 50% of HellermannTyton's overall energy consumption. We installed 1 200 solar photovoltaic panels, each generating 540W of power. This power project drastically reduces our carbon footprint and lowers our reliance on diesel generators, allowing HellermannTyton to put our environment and people first.

Enquiries: [www.hellermanntyton.co.za](http://www.hellermanntyton.co.za)



## Namibia to welcome Global African Hydrogen Summit 2024

Following its launch at COP28 UAE in December 2023, the pioneering Global African Hydrogen Summit will be held in Windhoek, Namibia on 3-5 September 2024. "The summit is the only platform of its kind aimed at driving critical investments into bankable African green energy projects, attracting the attention of heads of state, ministers and CEOs worldwide," explains the summits organisers. "The Global African Hydrogen Summit will be the first

platform of its kind to be leveraged by African governments, investors, financiers, scholars and the public to unlock additional opportunities for our continent and its partners," says the Honourable Tom Alweendo, Namibia's Minister of Mines & Energy, who will attend the summit.

"The gathering will provide a platform for the global players in the hydrogen value chain to showcase their projects, plans and



technologies to the African continent."

The organisers add that Angola, Djibouti, Egypt, Ethiopia, Kenya, Mauritania, Morocco, Namibia, Nigeria and South Africa, among others, all have critical hydrogen projects at the heart of their national energy development strategies.

"The Egyptian government is reported to have signed seven more agreements for green hydrogen projects worth USD \$40 billion over the next decade. In Mauritania, TotalEnergies and Chariot Group have announced the completion of the feasibility study for a proposed 10GW green hydrogen project. Namibia meanwhile has taken one step closer to securing its vision of green industrialisation by securing further support for the USD \$10 billion Hyphen green hydrogen project," adds the team.

Themed 'From Ambition to Action: Fuelling Africa's Green Industrial Revolution', the event with platform six critical thematic pillars including:

- Developing Africa's thriving hydrogen market to enhance the global energy map
  - Building new partnerships and collaboration across industries and governments
  - Stimulating investment and finance into hydrogen projects
  - Maximising green energy innovation and climate technology
  - Fostering green industrialisation
  - Macro-economic growth and developing capacity, skills and a content roadmap.
- Renewable hydrogen (also known as green hydrogen) is produced from renewable sources including solar, wind and hydro, and is expected to be an enabling contributor to a new energy system. Green hydrogen, for example, can provide energy security, power generation, clean cooking and decarbonise hard-to-abate sectors including steel, cement, aviation, petrochemicals, shipping and refining.

"For a great number of African countries, the priority is to sustainably harness existing resources to meet the growing demand for energy that will electrify households, advance economic development, and map a sustainable path to eliminating energy poverty across the continent," adds the minister. "Hydrogen-producing African countries have the potential to complement African hydrogen exports exceeding 40 megatons by 2050 and meet its full domestic demand potential of 10 to 18 megatons of hydrogen."

The summit will include a strategic conference with leadership boardroom dialogues and over 100 expert speakers, as well as project investment roundtables with over 40 bankable African green energy projects being assessed, tracked and accelerated to financial closure. Additionally, the summit will host an international exhibition, including a start-up hub incubator aimed at Africa's youth programme and representatives of civil society.

Enquiries: [www.world-hydrogen-summit.com](http://www.world-hydrogen-summit.com)

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## Starting motors on generator sets: Selecting the most effective solution

Electric motors play a crucial role in generator operation, often constituting a significant portion of the load. Managing the substantial overloads experienced during motor starting is vital for efficient generator sizing, says distribution giant ACDC Dynamics, adding that selecting the appropriate starting solution is paramount in ensuring optimal performance.

### Impact of motor starting on generator sets

When an alternating current (AC) induction motor starts, it draws a high current, often several times its full load current, before stabilising in operation. This initial surge places a considerable demand on the electrical equipment, causing voltage drops and adding to the engine's workload.

For generator sets, starting motors can significantly impact their overall loading, necessitating careful consideration for efficient and cost-effective solutions.

### Selecting the right starting method

Among various starting methods, soft starters emerge as the preferred choice. They offer precise control over start

current, gradually applying load to the generator, thereby minimising voltage and frequency disturbances. Soft starters also allow adjustments tailored to individual motor and load characteristics, ensuring optimal performance.

While variable frequency drives (VFDs) limit start current, they introduce voltage and frequency variations that can strain the generator. This limitation makes them less practical for generator applications.

### Generator sizing & selection

The generator sizing process involves dynamic and complex interactions between the genset, engine, alternator, and motor starters. Consulting with suppliers or utilising sizing software is crucial to ensure

system performance in specific applications. Key criteria for successful motor starting include engine KW size, alternator short-term kVA rating, and continuous kVA rating.

Soft starters offer the best solution for starting motors in generator set applications, providing gradual load application and precise current control. Careful engineering and matching of start requirements with generator capacity are essential for optimal performance. International brand AuCom, distributed locally through ACDC Dynamics, offers expertise in identifying start requirements and engineering solutions tailored to generator applications, ensuring reliable operation.

Enquiries: [www.acdc.co.za](http://www.acdc.co.za)



## Keep jobsite communication loud and clear with Hytera

Always-on communication is critical on any jobsite where danger could be lurking around the next corner. With that in mind, Hytera Communications, a leading global provider of professional communications technologies and solutions, introduces its new series of two-way radios to empower small-to-medium businesses with the tools they need to improve and streamline collaboration and communication, both on-site and nationwide.

"The S Series two-way radios – including the S1 mini, S1 and S1 Pro – are aimed at boosting on-site group communications and the P30 Push-to-Talk over Cellular (PoC) radio, a lightweight LTE radio, enables instant group calls across the nation," explains Mark Zheng, Director of Hytera Southern Africa. "South Africa's small-to-medium businesses require constant and effective communication to ensure efficient operations and productivity. This is where the newly launched S series two-way radio and P30 PoC radio provide the perfect solution for serving the diverse range of industries that are making their mark in the country."

The versatile devices can enhance operational efficiency and fulfil the diverse requirements of businesses. "The S series radios break the stereotype of traditional two-way radios and walkie-talkies with their sleek and contemporary design. These devices

are designed to complement the professional image of the users, making them a perfect fit for environments where appearance is as important as performance," says Zheng.

Designed to withstand the rigours of the commercial sector, the S Series radios boast rugged construction that ensures durability in challenging conditions. Moreover, the long battery life of the S series guarantees uninterrupted communication throughout extended shifts, ensuring that teams remain connected from start to finish.

"These radios mark a significant stride towards modernising communications in Southern Africa's commercial sector. By combining aesthetic appeal with practicality and durability, Hytera is effectively addressing the distinct requirements of businesses in the region," explains the businessman.

"The P30 PoC radio is one of our newer models, too. It is a lightweight, LTE-enabled device that is perfect for small-to-medium-sized enterprises seeking reliable, nationwide communication solutions. This radio stands out for its ease of use, extensive coverage, and crystal-clear audio quality, ensuring businesses stay connected."

Zheng concludes by saying, "Communication is vital to the success of any business. Our products facilitate seamless communication across different environments, giving your team the security they need knowing that any situation can be instantly and efficiently tackled. We are delighted to introduce new products that will drive digitalisation and strengthen the competitiveness of the region."

Enquiries: [www.hytera.co.za](http://www.hytera.co.za)

## Schneider Electric pushes education drive with online Spark Your Interest in Electricity courses

Leading manufacturer and distributor Schneider Electric launched its Spark Your Interest in Electricity courses over a year ago, and in that time more than 1 700 students have enrolled for the free interactive online education program. "To date, the majority of enrolments have been from South Africa, Kenya and Nigeria," says Zanélle Dalglish, Global Leader, Training & Education Affairs, who was instrumental in establishing this course on conjunction with Trace Academia.

The course was designed and launched in a partnership between Schneider Electric and multimedia giant Trace and is available through the Trace Academia app from the Google Play (Android) and Apple (iOS) platforms.

"Schneider Electric is leading the way when it comes to providing training to the youth. With the world becoming increasingly more digital and virtual, we have ensured that our training approach keeps up with these evolving trends," says Dalglish. "The Spark Your Interest in Electricity course provides an introduction to electricity for NEET youth (Neither in Employment Education or Training) as well as anyone that is interested to understand the basics of electricity. The course was developed by a team of experts from South Africa who carefully designed the curriculum to include the important modules required to Spark Your Interest in Electricity."

The course complies with Trace Academia's criteria for certification, including a rigorous approval process, and it aims to provide a virtual hands-on training in the field of electricity. "This Spark Your Interest in Electricity course serves as a precursor to encourages youth to take the next step: Enrolling in an electricians or related course provided at various tertiary and vocational institutions," says Dalglish.

To obtain a Spark Your Interest in Electricity certification, students must complete the entire course syllabus that includes eight modules:

- Discover the magic of electricity
- Electrical sockets and light fittings



Zanélle Dalglish, Global Leader, Training & Education Affairs.

- Connecting wires
- Principles of electricity
- Discover circuit breakers
- Understand series and parallel circuits
- What are electrical hazards?
- What is an earth-leakage device?

"Our aim with the course material is to truly spark students' interest, laying the groundwork for future studies in the electrical trade. Module 1 delves into the magic of electricity, including its formation, movement, and storage, while module 7, for example, provides insight into understanding series and parallel circuits, which is fundamental to any electrical work," explains Avin Ramjeeth, Projects & Offer Manager at the Schneider Electric Academy.

"The Schneider Electric Spark Your Interest in Electricity course is one of many education and training initiatives that lie at the heart of the company's commitment to youth impact through learning," says Carina van Zyl, Corporate Citizenship Leader for Anglophone Africa, Strategy & Sustainability. These include partnerships in conjunction with the Schneider Electric Foundation among others, and tertiary and vocational training organisations to form part of the French Southern African Schneider Electric Education Centre (FSASEC) network focusing to enhance energy technical training.

The New Skills of the Future & Innovation programme of the Schneider Electric Foundation is aimed at skilling and empowering youth in energy transition by leveraging the company's resources to provide financial and technical support in view of 139 million new jobs in energy transition by 2030."

Enquiries: [www.se.com](http://www.se.com)



## RS South Africa boasts more than 250 000 electronics products on its books

The local trading branch of electronics giant RS Group plc has launched a campaign to highlight its vast catalogue of electronics, with more than 250 000 products under the division.

"Electronics has been at the heart of our business for over 80 years, and we are still the ideal partner to help our customers source the products, services and design tools they need to get the job done," says Erick Wessels, the Sales Director at RS South Africa. "From board-level components, to development kits, connectors, or displays and optoelectronics, RS has a comprehensive range

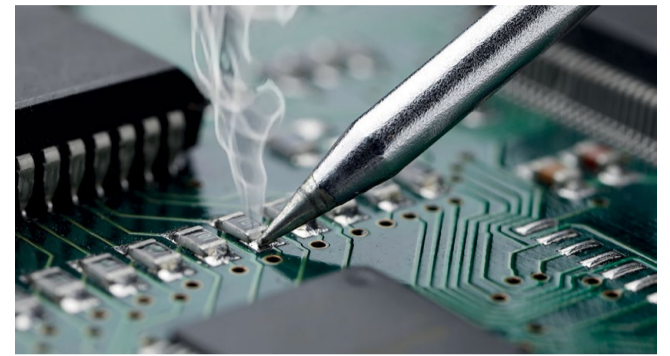
of products from over 700 electronics manufacturers including leading brands such as TE Connectivity, Amphenol, Molex, Infineon, ST, Microchip, Renesas, ams OSRAM, SEGGER, Würth Elektronik, and ebm-papst."

Highlighted are products such as semiconductors in small pack and bulk options, passive components for electronics design, and displays and optoelectronics, including LED lighting parts, couplers and indicators, development tools and kits, such as evaluation boards, emulation and simulation tools, programmers, prototyping tools and accessories; connectors, such as power, signalling and data connectors for board, panel- and machine-level applications; and on- and offboard power supplies, soldering, ESD control, test and measurement, and electronic tools.

"The DesignSpark community connects over a million like-minded engineers from all walks of life, using RS's

design resources to improve productivity and innovate responsibly, including programming software, CAD libraries, and tech updates," concludes Wessels. "

Enquiries: [www.za.rs-online.com](http://www.za.rs-online.com)



## ABB automation & efficiency drives Brazil's largest paper mill forward

For more than 40 years, global electrical leader ABB has worked with Brazil's largest producer of paper packaging, Klabin, to help it achieve its sustainability goals. This is a project that ABB hopes will be implemented at other factories and industries around the world.

Klabin was founded in 1889, has 24 facilities in Brazil and one in Argentina, and its Agenda 2030 is its ambitious sustainability-focused agenda. "The programme aims to orient performance and growth strategies towards economic development, environmental sustainability and social justice," says Klabin.

"We believe that our sustainability goals emphasize the importance of transparency in environmental, social and governance (ESG) aspects that are fundamental to our core operations and society in general. This includes a focus on energy and water use, carbon management, availability of wood, waste management and the development of people and communities where we operate."

Achievement of these goals is reliant on innovative technology that will help drive efficiency in energy use, energy management and industrial processes. "Klabin's partnership with ABB started in 1980, with

the aim of maximising results and optimising resources. ABB solutions are now found in multiple areas of Klabin's operations. For example, ABB's quality control system (QCS) works to increase uniformity in paper and cellulose products, reducing losses and decreasing the consumption of raw materials, water, energy and chemicals. In this way, QCS directly contributes to the achievement of sustainability goals," says ABB.

Klabin factories also rely on the plant-wide ABB distributed control system (DCS). This system manages, orchestrates and controls complex production processes via multiple autonomous controllers distributed throughout the network. These controllers communicate and co-ordinate with each other to perform specific tasks, allowing high stability and quality in production processes.

"ABB's power distribution, motor control and robotics solutions are found throughout Klabin's facilities. Automated handling is an effective means of improving plant efficiency and ABB robots are relied on for many heavy lifting duties. Our automation products have ensured Klabin is well on its way to meeting its sustainability goals" concludes ABB.

Enquiries: [www.new.abb.com/africa](http://www.new.abb.com/africa)

## Versofy Solar's entrepreneurial journey to being a solar industry leader

Many businesses claim to have had the idea scrawled on a serviette at a restaurant, the perfect elevator pitch heard by the right person at the right time. Less fabled are the great ideas that did not quite work as planned, the hours of cold-calling, or the tough but necessary 180-degree turns a business might make before it finally carves out a place in the market. Ross Mains-Sheard, Chief Executive Officer (CEO) of solar installer Versofy, has navigated his company through many changes, opportunities, pivots, and a global pandemic. Versofy now is proudly reshaping how South African consumers access solar energy solutions.

"The idea for a self-storage aggregation website then morphed into a marketplace platform for professional services with over 350 categories encompassing everything from dog-walkers to upholsterers, which was again refined to service providers within the property management space," explains Mains-Sheard. "Although Versofy had grown 400% in 2019, there were still some gaps in our business model, and the pandemic gave us an opportunity to pause and reflect. It was the chance for a fresh start, along with the realisation that every uptick in success had come when we narrowed our focus. Solar was the logical shift."

Traditionally solar had been reserved for the fortunate few who could afford to pay the R200 000-plus price tag upfront and in cash. With access to the best installers and flexible payment options, Versofy started its journey of opening up the market from the few to the many, says Mains-Sheard. Today the company has empowered over 4 000 households to embrace solar energy, installing over 50 000 solar panels. "This has not only illuminated homes but has also contributed significantly to reducing carbon footprints, generating over 35 000 000kWh annually while helping the local economy, households and small businesses mitigate the worst effects of loadshedding," says the CEO.

Mains-Sheard believes that Versofy's business journey mirrors the spirit of a uniquely South African entrepreneurship, characterised by a deep-rooted sense of purpose and community. "South Africa is fertile ground for entrepreneurs, especially those who can view our serious challenges as opportunities for innovation and impact," he says. "If the definition of entrepreneurship is solving a problem for someone and being able to charge for it, the opportunities for entrepreneurs in

South Africa are numerous, even more so when they can improve people's lives in direct and tangible ways. As much as we have our challenges, there is room to operate quickly and efficiently, and delight the customer. Many people have come to terms with bad service to the point where it feels like the norm, but it does not have to be this way."

When it comes to entrepreneurship, he says that networking, persistence, and a dedication to learning are pillars of strength that every businessperson should adopt. "The importance of having a vision, staying dedicated amid adversity, and leveraging digital technologies to streamline operations are crucial elements for those considering becoming entrepreneurs. Small businesses require support from both the government and corporate sectors. While it's crucial for small businesses to focus on their trade, technology plays a significant role in optimising operations."

Since Versofy's roots are in technology and the company has always occupied a space online, its aim as a technology company is to make people's lives easier and more efficient and eliminate waste. "The importance of focus, the courage to pivot when necessary, and the value of learning from disappointments while having a greater purpose all coalesce in Versofy's rise to one of SA's most trusted names in rent-to-own solar and solar-as-a-service," says Mains-Sheard.

He concludes, "The latest avenue for creating meaningful value-added services that help our customers live lighter is the recent introduction of the proudly local Versofy HOME app, as well the upcoming launch of its solar-boosted smart geysers and home water solutions. There is a common misconception that to be a successful entrepreneur, you have to invent something completely new, something ground-breaking or change the world. The real essence of entrepreneurship is in creating value within your local ecosystem and economy."

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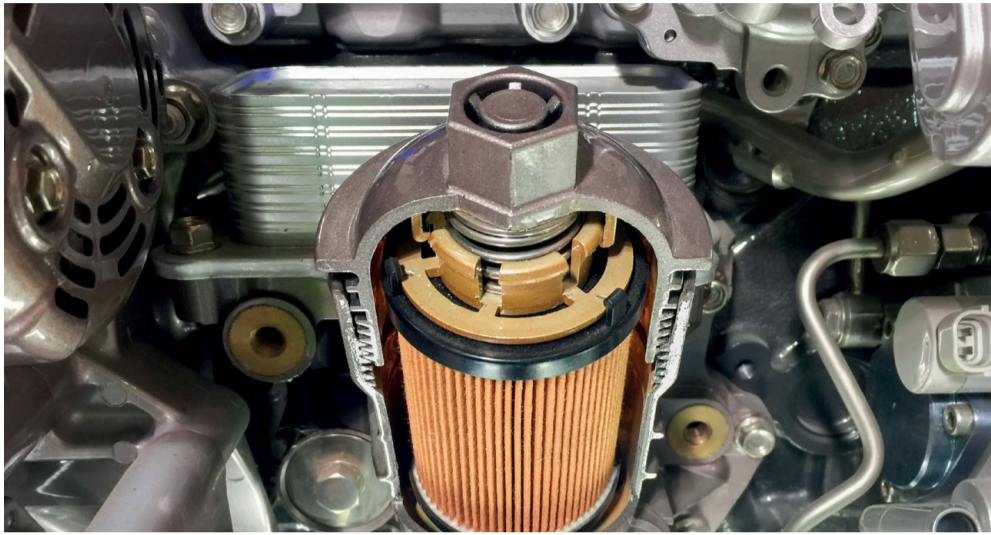


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## WearCheck promotes lubricant and oil awareness in your equipment



Conditioning and monitoring expert WearCheck promotes awareness and pro-activity when it comes to being in control of your equipment, especially with lubricants and oils. "It is imperative to any business than those using the equipment and machinery are in control of how they operate and their maintenance schedule. One of the most overlooked elements is lubrication, whether natural or synthetic," says Steven Lumley, Technical Manager and lubrication specialist at WearCheck. Here, some important questions are answered:

### Why can't my condition monitoring lab specify which brand of oil is in use?

Specific tracers can be found in many commercial products – they are included in order to help oil companies make their own products identifiable. However, when conducting oil analysis, the properties that are routinely monitored by a condition monitoring company, the properties that are usually monitored are elementally generic, and often incorporate elements that are commonly included in many lubricants with the same classification and purpose.

An oil analysis laboratory can determine whether or not the same product is being used as your referenced oil, as well as whether it is typical of the type of oil (application) that is required. However, it can be virtually impossible to identify a specific brand name, due to many factors, including fluctuations between batches, similarities to other oils, and formulation changes.

### Why has my lubricant failed?

Be careful when adding additives to oil – in some

cases, when the amount of a particular additive is increased, it may enhance one property of the oil, and simultaneously cause another property to be less effective.

Oil quality can be affected in instances where the recommended concentrations of additives are no longer accurate. Some additives may be in competition with other additives for the same space on a metal surface. For example, the addition of a high concentration of an anti-wear agent may result in the corrosion inhibitor being restricted in its effectiveness in the oil. This may lead to a growing number of corrosion-related issues.

### How often should hydraulic fluid be maintained?

It is important to ensure that hydraulic fluids are kept cool. Importantly, the bulk oil temperature at the reservoir's exterior should at no time exceed 60°C. Essentially, hydraulic fluids should always be kept clean. Hydraulic experts agree that fluid contaminated with wear particles, dirt and other matter results in between 75% and 80% of hydraulic failures. Most high-pressure systems have very small clearances between wear surfaces, which means that contamination control is a critical part of maintenance and longevity.

Fluid leaks should be fixed immediately. If oil can find a way out, that means that dirt and other contaminants can find a way in. Furthermore, a worrying statistic is that a leak of one drop per second leads to 1 500 litres in a year – this can lead to an expensive loss if left untreated.

### Some oil manufacturers colour their synthetic oils, while others don't. What would happen if the oils were to be mixed or topped up with the wrong oil?

The colour of the lube is simply a dye. There are no standards, and manufacturers can and do change colours whenever they please. Unfortunately, there is no reliable way of differentiating between mineral and synthetic in the field. However, because synthetic base oils are white (meaning transparent) compared to mineral oils, which have a darker natural colour (due to aromatics, sulphur and other impurities), this may be a distinguishing factor. Note, however, that despite the fact that the base oil of a synthetic is white, the additives can add considerable colour (darkening) to the finished oil.

In the laboratory, you could distinguish synthetics from mineral oil by looking at a combination of physical properties including VI, flash point, pour point and aniline point. There may also be different elemental additive chemistry. Generally in trucks, the synthetic gear oil will likely be polyalphaolefin (PAO) based which are very similar to mineral oils.

Enquiries: [www.wear-check.co.za](http://www.wear-check.co.za)

## Eskom announces stage 16 loadshedding schedule

While South Africa has experienced an unprecedented lift on loadshedding for more than a month, in that same time national service provider Eskom successfully extended the 8-tier schedule to 16 tiers.

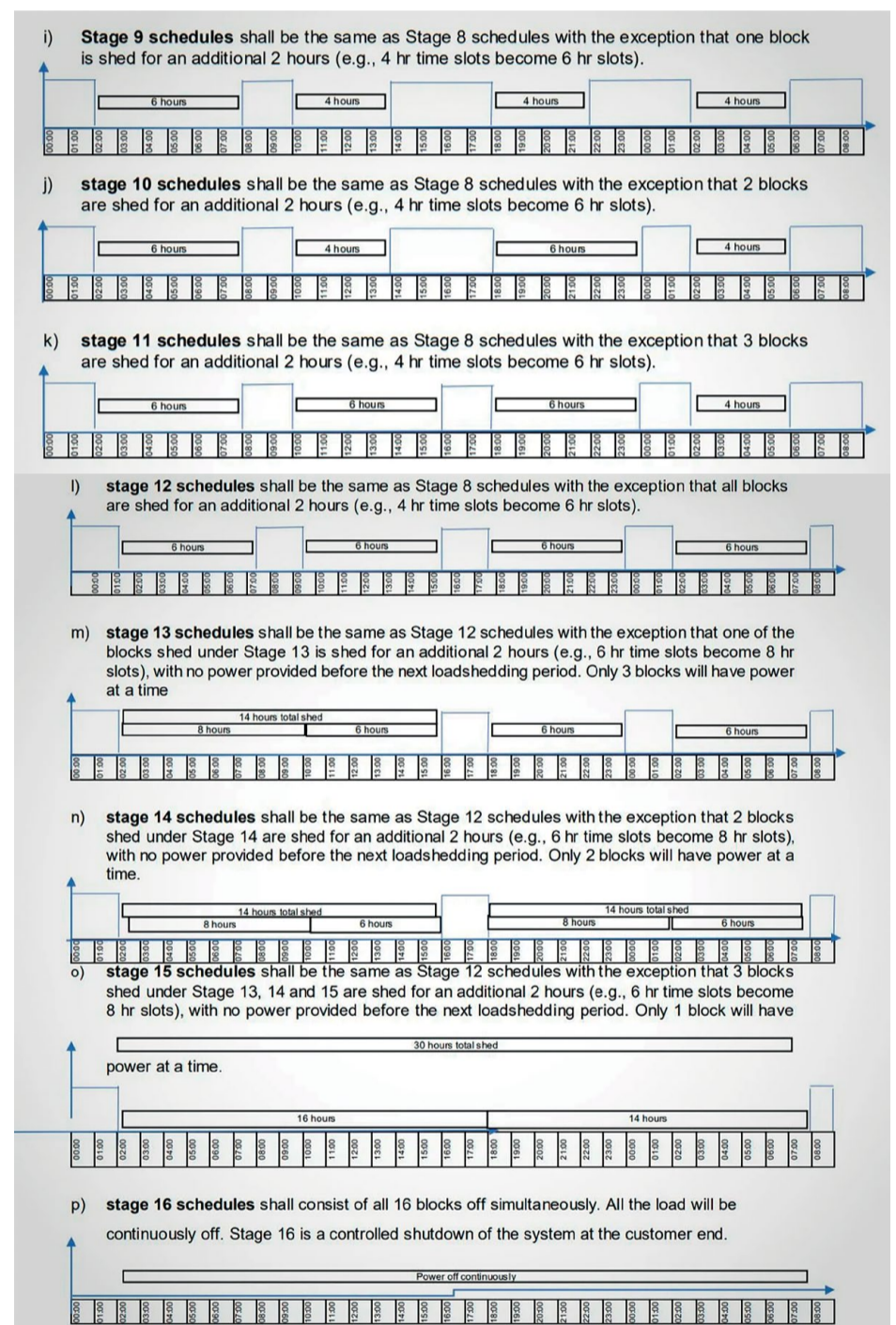
News website [businesstech.co.za](http://businesstech.co.za) reports, "The National Rationalised Specifications Association management chairperson, Vally Padayachee, says it is highly unlikely that South Africa will ever reach stage 16, but the new stages approved by energy regulator Nersa mean that there is now a plan if we do."

National regulating body Nersa approved the new schedule during April, with the new structure splitting up the full load (minus the 20% critical load)

into loadshedding blocks, with stage 16 being the new maximum – power will effectively be cut for a full 32-hour cycle.

"If we went into a situation beyond stage 8, people in the operations centres would have gone into 'emergency mode' to manage the required loadshedding stages," says Padayachee. "In an emergency situation beyond stage 8, which we cannot rule out, notwithstanding Eskom's current good performance, it becomes a bit more complex because you have less electricity load to 'play' with. Even though system operators are very competent, the propensity to make errors in an emergency increases."

Enquiries: [www.nersa.org.za](http://www.nersa.org.za)



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## Siemens Sinec Guard software spots asset vulnerability for you

International technology leader Siemens has unveiled its Sinec Security Guard, an intuitive cloud-based software-as-a-service to improve cybersecurity on the shop floor. "Available via Siemens Xcelerator Marketplace from this July, Sinec Security Guard allows users to match vulnerabilities to their OT assets, prioritise them, and engage in mitigation measures," says Siemens. "The system features integration with the cloud-native SIEM Microsoft Sentinel, making it easier than ever to upgrade and use our software solutions."

Production facilities are increasingly the target of cyberattacks, says Siemens. "As a result, industrial companies should identify and close potential vulnerabilities in their systems. To address the need to identify cybersecurity vulnerabilities on the shop floor as quickly as possible, Siemens has launched Sinec Security Guard, which offers automated vulnerability mapping and security management optimised for industrial operators in OT environments."

Sinec automatically assigns existing cybersecurity vulnerabilities to the production assets of industrial companies. This allows industrial operators and automation experts who do not have dedicated cybersecurity expertise to identify cybersecurity risks among their OT assets on the shop floor and receive a risk-based threat analysis. "The software recommends and prioritises mitigation measures. Defined mitigation measures can also be planned and tracked by the tool's integrated task management system," says Siemens, adding, "Sinec is offered as-a-service (SaaS), is hosted by Siemens, and it will be available. With the system installed

and configured, customers can focus their resources on the most urgent and relevant vulnerabilities, while having full risk transparency in their factory. It is unique because it takes the specific situation of the customer's operational environment into consideration while providing a single pane of glass for security-relevant information in the OT area," says Dirk Didascalou, Chief Technology Officer (CTO) of Siemens Digital Industries. "When developing Sinec Security Guard, we drew on our extensive experience with cybersecurity in our own factories."

Modern companies must continuously safeguard production assets on the shop floor, analysing vendor security advisories, manually matching them to the asset inventory, and prioritising mitigation measures. "This process is time-consuming and error-prone using the existing tools, which leads to factories running the risk of missing critical vulnerabilities in their assets or producing false-positives. This can lead to incorrectly configured plant components and inadequately allocated resources. With the Sinec Security Guard, industrial operators can tackle these challenges without needing in-depth cybersecurity knowledge," explains the tech giant.

Once connected, the software can send alerts for security events including attacks to Microsoft Sentinel, enabling a security analyst to incorporate insights and conclusions in investigations and responses.

"As information technology and operational technology systems continue to converge, a holistic cybersecurity architecture is key to protecting IT and OT capabilities alike. By combining our domain knowledge, Siemens



and Microsoft make it easier for industrial operators to efficiently detect and address cybersecurity threats at scale," says Ulrich Homann, Corporate Vice President, Cloud + AI at Microsoft.

Sinec Security Guard also supports the manual upload of existing asset information for asset inventory. "Siemens recommends that industrial operators use the Industrial Asset Hub, Siemens' cloud-based Asset Management solution, to enable continuous automated asset inventory management," says Siemens, adding, "Functionalities also include signature-based network intrusion and attack detection via the SINEC Security Guard Sensor, an Industrial Edge app, which gives users live information about their industrial network."

Enquiries: [www.siemens.com](http://www.siemens.com)

## CRM can improve your business

CRM (Customer Relationship Management) software is vital for any business – if you are not using it yet, here are a couple of reasons why you need to start, according to tech website [www.founderjar.com](http://www.founderjar.com).

**Centralised customer data:** CRM allows small businesses to centralise customer data, including contact info, interactions, purchase history, and preferences, in one accessible platform. This provides a comprehensive view of each customer, enabling better understanding and personalised communication.

**Improved customer relationships:** This system helps small businesses build and nurture customer relationships by providing for effective communication, follow-up, and engagement. With CRM, businesses can track customer interactions, respond promptly to inquiries, and tailor their marketing and sales efforts to individual customers.

**Increased efficiency & productivity:** CRM streamlines business processes and automates repetitive tasks such as data entry, lead management, and follow-up reminders. By automating these tasks, small businesses can save time, reduce manual errors, and focus on more strategic activities, leading to

## The Internet of Things has the potential to fight against illegal power connections

Illegal connections are one of the leading causes of electricity-related injuries and deaths in South Africa, as reported by national service provider Eskom. "Not only is there danger involved for those who connect their electricity illegally, but also for the rest of the community due to the fires and electrocutions that can be caused," says Dr Andrew Dickson, Engineering Executive at CBI-electric: low voltage. "There are also costs to the power utility and the municipalities it serves which, in turn, impair their ability to provide service delivery and repay debts. However, leveraging Industrial Internet of Things (IIoT) solutions could aid in mitigating these."

Illegal power connections are siphoning an estimated 37GWh of electricity per day from Eskom, costing the power utility around R15 million daily. While regular audits are conducted to identify and dismantle these connections, the situation is worsening. Power theft, including illegal connections, now accounts for 70% of Eskom's total energy losses – up from 30% in 2022.

"The network and infrastructure are under further strain as new connections are made due to urbanisation," explains the electrical expert. "These factors result in technicians being required to create new connections, remove illegal connections

and, in many cases, restore power due to failed infrastructure." This is over and above the normal operational maintenance and restoration processes that ultimately impacts service delivery. It also prevents funds and resources from improving and upgrading the existing systems, thereby keeping the country stuck in a legacy environment, unable to develop and move forward.

Tackling illegal connections forms part of Eskom's funding application for the 2023/24 and 2024/25 financial years, with data analytics to detect and resolve incidents being one of the strategies put forward by the power utility. "This could be achieved through the roll-out of industrial IoT solutions, comprised of internet-connected devices and advanced analytics platforms that process the data that is produced," says Dr Dickson.

Real-time data collection and processing capabilities offered by these IoT solutions, coupled with the granular data they churn out, give power utilities and municipalities greater visibility and control over the consumed electricity. This can be used to distil what electricity is being consumed illegally and where – equipping them with actionable, on-the-ground insights into what is happening within the distribution network. At the same time, the technology enables them to audit and better understand their systems. Not only

could this help prevent energy and financial losses but could ultimately save lives, explains Dr Dickson.

"Beyond mitigating the consequences of illegal connections, IIoT could have broader-reaching economic and environmental benefits for Eskom and municipalities. This could include remote asset monitoring and maintenance to improve the reliability of power transmission and distribution, optimising the distribution of power supply to reduce losses in the system and redistributing excess energy generated by rooftop solar panels or wind plants to the grid, amongst other possibilities," says the energy expert.

In conclusion, "We find ourselves in a catch-22 situation: If the problem of illegal connections persists, we will never achieve universal electricity access for all and financial strain on the fiscus will continue. While not a cure-all, IIoT solutions could help to enable a smarter, safer, and more sustainable energy future for South Africa."

Enquiries: [www.cbi-lowvoltage.co.za](http://www.cbi-lowvoltage.co.za)



Deals					
Pipeline	Owner	Contacts	Stage	Close probability	Est. deal
Twitter Sports	Madison Doyle		Qualified	60%	\$7,500
Ridge Software	Phovisa Levy		Proposal	50%	\$10,000
Bluemart	Lelani Kwaase		Negotiation	80%	\$5,500
Yellowworks	Amanda Smith		Negotiation	80%	\$15,200
Closed won					
Owner	Contacts	Stage	Close probability	Est. deal	
Shelley Industries	Jamal Ayres	Won	100%	\$24,000	
ZIR Records	Stan Warren	Won	100%	\$4,000	
Wasamom Gallery	Sam Spillberg	Won	100%	\$18,100	
SFF Cruise	Hannah Duch	Won	100%	\$5,800	

increased efficiency and productivity.

**Better sales & marketing alignment:** CRM software facilitates collaboration and alignment between sales and marketing teams by providing visibility into customer interactions, lead status, and marketing campaigns. Integrated CRM platforms enable seamless communication and data sharing between departments, ensuring consistent messaging and co-ordinated efforts to drive revenue growth.

Enhanced customer service: CRM is

able to provide tools for tracking customer inquiries, resolving issues, and managing service requests efficiently. Businesses can prioritise and escalate support tickets, monitor response times, and ensure timely resolution of customer issues.

**Data-driven decision making:** This software delivers valuable insights and analytics that help small businesses make data-driven decisions to improve performance and profitability. By analysing customer data, sales trends, and campaign

effectiveness, businesses can identify opportunities for growth, optimise marketing strategies, and allocate resources more effectively.

**Scalability & growth:** CRM is scalable and adaptable to the changing needs of businesses as they grow. Whether adding new users, integrating with third-party applications, or customising workflows, CRM platforms are able to accommodate evolving business requirements and long-term initiatives.

## Lithium-ion batteries and their associated fire risk

As renewable energy systems, including solar photovoltaic (PV) panels and battery energy storage systems (BESS), gain increasing popularity, experts caution about the potential fire risks posed by lithium-ion batteries. "Commonly used in energy storage systems, lithium-ion batteries pose unique fire hazards due to their flammable electrolytes," says Michael van Niekerk, Chief Executive Officer (CEO) of risk consultant ASP Fire.

"Unlike traditional lead-acid batteries, lithium-ion batteries can undergo thermal runaway, leading to intense fires that are difficult to extinguish. The risk is compounded by the emission of flammable gases during thermal runaway that can result in explosions if ignited," says Van Niekerk, stressing the importance of adequate safety measures. "We recommend the construction of two-hour fire-rated rooms to house lithium-ion batteries. Proper ventilation and gas detection

systems are essential to manage the off-gassing phenomenon associated with these batteries."

Fire dampers are recommended to contain potential fires within designated areas, minimising the risk of it spreading to larger structures. While large-scale energy storage systems, such as those installed by electricity utilities, may adopt different risk management strategies, van Niekerk underscores the importance of considering safety precautions in all installations. "The risks associated with improperly installed PV systems and batteries are significant in residential settings where DIY installations are common."

"It is critical to always consult experts when installing such systems. Proper integration and monitoring of components, along with adherence to safety standards, significantly reduce the risk of fire incidents," concludes Van Niekerk.

Enquiries: [www.aspfire.co.za](http://www.aspfire.co.za)



Michael van Niekerk, Chief Executive Officer (CEO) of risk consultant ASP Fire.

## Residential & commercial PV market welcomes Satchwell to its ranks



Electrical manufacturer ACTOM's subsidiary, Satchwell, has entered the solar photovoltaic (PV) generation market by offering system components to contractors, as well as providing turnkey solutions on a select and small-scale basis. The company, which is based in Paarl, in the Western Cape, is ACTOM's manufacturer and supplier of domestic and industrial products and components.

This industry move follows Satchwell's recent incorporation of Electrical Products' heating and ventilation unit, with brands Xpelair, Redring and Tempadair, into itself. "We view our entry into this market as taking the logical next step by introducing solar back-up and PV installations from our existing well-established base in the residential market of supplying solar-powered geyser systems to householders nationwide," says Chanelle Visser, Satchwell's National Sales Manager.

"Our primary objective is to supply quality system components to the market, including solar panel mounting structures to installers and contractors," adds Visser. She says that before entering the solar

PV market, the company did intensive research to better understand "what the market requires, so we participate directly in the installation activity on a very small scale because this is where we learn what contractors are faced with in their daily lives, which enables us to develop and roll out products that make their lives easier and profitable".

Satchwell's recognised domestic and light industrial heating elements and controls, its range of refrigeration components and gas, and now its ventilation and heating appliances place it as a major supplier to the market, with the added benefit of being a local manufacturer.

The boom in the inverter/battery/PV market has provided Satchwell with the opportunity to grow its presence in the domestic and light industrial markets as the business has a solid reputation and brand, built up since 1948. Further benefits include Satchwell's national distribution network in the market and its embedded knowledge of PV science gained in the solar water heating space.

Enquiries: [www.satchwell.co.za](http://www.satchwell.co.za)

## DHENventil surge arrester is half the size but packs 'all the power'

There is no such thing as 'too much protection' when it comes to an electrical system. That does not mean that innovation and technology need rest on its laurels. Leading equipment manufacturer DEHN has pushed limits, function and design with its DEHNventil range of circuit breakers and surge protection devices. "The DEHNventil is a unique product as it is half the size of the traditional electrical components offered by our competitors, yet it delivers better performance than many other products on the market," says Florian Vögel, Sales Manager of DEHN Africa.

The surge arrester has been designed to replace equivalent older devices, while at the same time providing the maximum guarantee of future compatibility. "The DEHNventil range comes equipped with a remote signalling contact that simplifies product selection significantly," explains Vögel. "The device is half as big as its predecessor, and it provides flexibility with four standard DIN modules and the option of lateral installation. It is what we have coined 'futureproof'."

By installing various types of DEHNventil is combination such as Type 1 + Type 2, you are able to better protect your system from partial lightning currents and surges in just one single compactly designed module.

"It has a follow current extinguishing capability of 100 kArms," explains the sales manager. "The installed RAC spark gap responds extremely quickly and processes minimal residual energy. This means maximum safety and optimum preservation of downstream electronic installation and systems."

The DEHNventil was originally designed in 1983 with the VGA model, and over the years the range has been one of DEHN's flagship products through constant updates, upgrades and modernisation. "We have a history of pushing boundaries and being able to deliver on promises," says Vögel. "The latest iteration of the DEHNventil surge arrester provides maximum protection for your system. We are proud of the way that the range has evolved, and we cannot wait to show you some exciting new products later in the year."

The DEHNventil range is compliant with all requirements by accreditation bodies, with the range certified for installation upstream of the meter panel. Installation has also been simplified with a simple click-into-place clip that allows users to effortlessly snap the arrestors into a 40mm busbar.

Enquiries: [www.dehn-africa.com](http://www.dehn-africa.com)



## SAEE Renewable energy convention moved to June 2024

After some initial confusion, the South African Energy Efficiency Confederation's 2024 Renewable Energy Convention has secured a new date: 6 June 2024.

The conference will be held at Vodacom World at the Vodacom Campus in Midrand, Johannesburg, and it will feature expert speakers from the industry.

"This is an unmissable conference event for anyone involved in the renewable energy industry," says the organising committee. "Renewable energy is currently playing an incredible role in South Africa, and it is only going to be more important as the years go by. It is imperative that more people – both consumers and suppliers – become more aware of what is going on (in the energy sector) and how they can mitigate issues going forward."

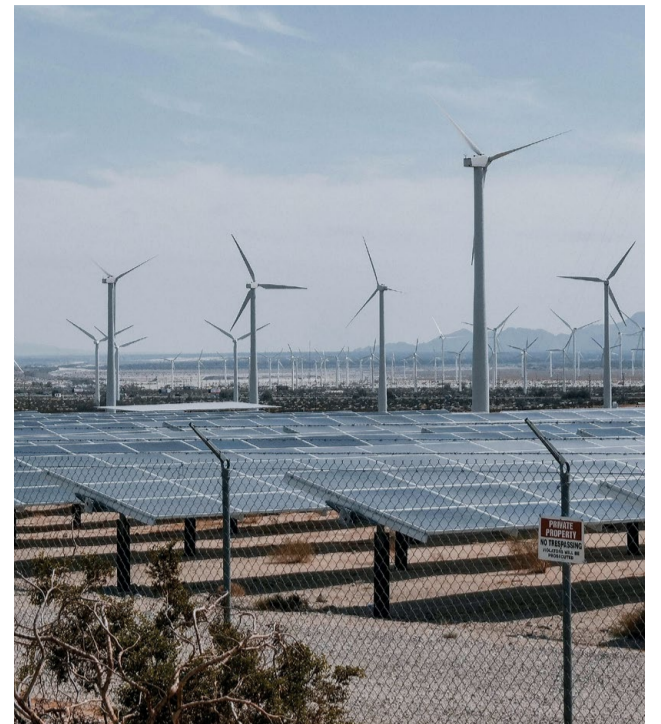
With renewable energy being the future, the organisers say, "Our event will focus solely on renewable energy, with the focus on accelerating renewable energy – this includes solar, biomass, hydro, geothermal wind, and tidal energy. These are options available to South

Africans, and we will link consumers to them via energy service companies, renewable energy professionals, policymakers, energy projects funders, regulators, corporates, government, and the most influential renewable energy sector decision-makers."

The event aims to share knowledge of the renewable energy industry, exploring and unpacking available funding mechanisms and with assistance via banking and financial institutions. "We will also take a closer look at the different energy storage systems that are available and suitable for South African renewable energy market," says the SAEEC.

The event is free as a complimentary service to active SAEEC members, while non-members will have to pay a R1 000 entry fee if they would like to attend. The conference, which runs from 8am to 4pm on the day, carries 1.15 SAEEC renewal credits for those who are in attendance.

Enquiries: [www.saeecconfed.org.za](http://www.saeecconfed.org.za)



## Surge protection in South Africa is more important than ever

With South Africa's ongoing energy crisis, surge protection has emerged as a vital cog in any electrical system. Despite the advantages that accompany these surge protection devices (SPDs), there are dangers that users still need to be aware of, including transient overvoltages. Electrical giant ElectroMechanica says that protection against overvoltages ensures the safety of people, goods, and equipment, as well as guaranteeing uninterrupted installation services. "Surge protection extends the equipment's lifespan, significantly reducing electronic waste volume. Additionally, it curtails power consumption in installations, leading to cost savings and contributing to environmental sustainability," says the team

at ElectroMechanica.

Surges are essentially overvoltages that are experienced for microseconds, and they can reach tens of kilovolts. "Their high energy content can cause serious harm to equipment connected to the electrical line. Lightning strikes, both direct and indirect, along with power restoration after outages and operation of certain electrical equipment, serve as primary sources of surges," says the team.

### Understanding SPDs

SPDs safeguard electrical equipment from the risk of surges. They are connected to the ground, placed upstream, and run in parallel with the equipment. During normal conditions, SPDs maintain a high impedance, preventing current flow to the ground. However, when an overvoltage occurs, the SPD's impedance reduces to close to zero, allowing it to divert the surge safely to the earth, thereby protecting downstream electrical components.

To select the appropriate SPD for a system, electrical contractors and technicians must understand its key characteristics:

- In (nominal current): The peak current in 8/20us waveform the SPD can withstand at least 20 times
- I<sub>max</sub> (maximum current): The peak current in 8/20us wave-form the SPD can withstand once
- I<sub>imp</sub> (impulse current): The peak current in 10/350us waveform the SPD can withstand once.

### SPDs are categorised into three main groups

- Type 1: Designed for high-risk areas with external lightning protection systems (LPS), the Type 1 SPD is installed in incoming power supply panels, providing crucial protection against direct lightning (current) impacts. A Type 1 SPD must be accompanied by downstream Type 2/Class II protectors.
- Type 2: Ideal for areas with low lightning exposure and no external LPS, the Type 2 SPD is placed downstream of Class I protectors or in incoming power supply panels.
- Type 3: Strategically positioned downstream of Type 2/Class II protection, the Type 3 SPD shields sensitive equipment or distant circuits (located more than 10m) from indirect lightning impacts, it effectively safeguards electrical systems from current and voltage surges. The effectiveness of a surge protection system relies on the ability of SPDs to withstand the discharged current and provide a U<sub>res</sub> level (residual voltage) lower than the U<sub>e</sub> peak voltage that the equipment can endure. Achieving this with a single SPD is challenging, given the uncertainty of surge intensity and the induction of overvoltages when conductors exceed 10 metres. For the most effective surge protection, it is often recommended to use the following combinations of SPDs:

- Type 1+2 combination: A pure Type 1 SPD is a robust choice with a high limp rating, making it capable of withstanding over 100kA in special cases. However, when installing a Type 1 SPD, it is crucial to install a Type 2 SPD downstream to ensure the correct residual voltage passes through the installation during discharge. A Type 1 SPD with an limp rating of 12.5kA is often sufficient, making a Type 1+2 combination with tested parameters meeting Type 2 SPD standards (I<sub>n</sub>, I<sub>max</sub>) a cost-effective and optimised solution.
- Type 2+3 combination: A Type 2 SPD is paired with a Type 3 SPD to protect sensitive electrical equipment. The Type 2 SPD provides general protection for the system, while the Type 3 SPD offers additional protection for delicate components.

Enquiries: [www.em.co.za](http://www.em.co.za)



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### No earth, no protection

Monitor the grounding system in the surge protection device itself



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## Exploring renewable energy career paths for youth in SA

A remarkable expansion is underway in South Africa's energy sector. The country is increasingly embracing renewable energy sources, spurred by pragmatic considerations such as sustainability, economic competitiveness, and environmental responsibility, says Pierre Bekker, a Director at Quyn International Recruitment & Staffing Solutions. "As South Africa strives to address global challenges like climate change and energy security, the renewable energy sector is brimming with exciting career paths for the next generation." He adds, "Temporary Employment Services (TES) providers can play a vital role in bridging the gap between South Africa's young workforce and the renewable energy sector's growing labour needs. By facilitating placements and participating in skills development partnerships with industry players, TES can empower young people to enter this rapidly growing industry."

South Africa's energy crisis can be seen as a catalyst for change, says Bekker. "The urgency behind our transition to renewable energy is heightened by an ongoing energy crisis, which is characterised by loadshedding – deliberate, rolling power cuts implemented to manage electricity demand." This power crisis highlights the need for a more sustainable, secure energy system, and renewable energy sources like solar and wind offer a viable solution that harnesses clean and abundant natural resources to power a nation that is struggling.

### The promise of renewable energy for employment in South Africa

Given that it is predicted that by 2029 at least 19.28% of all energy used will be from renewable sources, it is clear that this is an industry that will keep growing, with the private sector actively leading the expansion in South Africa. "The surge in adoption

indicates a shift towards sustainable practices and signifies a promising future for renewable energy in our country. Positively, this growth in the renewable energy sector offers significant career prospects for the youth. This is particularly important in light of data released by Statistics South Africa in May 2023 showing that the total number of unemployed youth aged 15-34 years stands at a staggering 4.9 million, which is 46.5% of the country's employable population," explains Bekker.

With roles spanning various disciplines such as engineering, project management, research and development, and policy advocacy, young individuals will be able to contribute to the design, installation, and maintenance of renewable energy systems, lead project initiatives, drive innovation, influence policy decisions, and even venture into entrepreneurship. "This will present a dynamic and promising field for career growth and development, the ideal conduit for young people to actively shape a sustainable future for the nation," says Bekker, adding, "The opportunities presented by renewable energy extend beyond mere employment. For unskilled workers, it offers a gateway to gainful employment and provides valuable skills development opportunities. Construction projects associated with renewable energy infrastructure serve as learning platforms, imparting essential skills such as workplace safety practices, technical skills, and project management expertise. The decentralised nature of renewable energy projects means that opportunities are not limited to urban centres but extend to rural areas, which contributes to inclusive economic growth and development across the country."

### Career possibilities aplenty in renewable energy industry

In terms of specific roles in high demand within the renewable energy environment,

there is a spectrum of avenues available to individuals with varying skill levels. "From health and safety personnel to engineers and semi-skilled and skilled electricians, as well as civil works professionals, and project managers, the sector offers an unimaginable array of career paths. As the industry matures, there will be a growing need for workers in operations and maintenance roles, providing long-term employment prospects for young individuals that gain the necessary specialised skills," says the recruitment executive.

Embracing renewable energy career paths offers both personal and professional growth opportunities for young South Africans. "The sector's long-term stability ensures consistent employment opportunities, with certain renewable energy projects likely to span several decades. Being part of a flourishing industry presents a chance to be at the forefront of innovation and development, with ample room for career advancement and skill enhancement," says Bekker. "Contributing to renewable energy initiatives also allows individuals to make a tangible impact on mitigating climate change and fostering a more sustainable future for generations to come – a factor that has proven to be important with the upcoming Gen Z workforce."

### Shaping the workforce of the future

As an alternative to traditional career pathways, TES providers and outsourcing firms can play a crucial role in facilitating entry into the renewable energy sector for the younger workforce, says Bekker. "TES providers specialise in sourcing, recruiting, and managing temporary or contract workers, offering flexibility and scalability to businesses in need of labour."

By partnering with TES providers, the sector can access a pool of talented



Pierre Bekker, a Director at Quyn International Recruitment & Staffing Solutions.

individuals with diverse skill sets, bridging any skill gaps and accelerating project timelines. TES arrangements give individuals the chance to gain valuable hands-on experience in the industry, building their resumes and enhancing their employability in the long term.

"In this way, TES providers can serve as a strategic resource for both employers and young professionals looking to embark on a career in renewable energy and, in the long run, the transition to renewable energy provides the ideal opportunity for our youth to contribute meaningfully to the country's sustainable development. As the sector continues to grow and evolve, embarking on renewable energy career paths offers young individuals the chance to be part of a transformative journey towards a greener, more prosperous future," concludes Bekker.

Enquiries: [www.quyn.co.za](http://www.quyn.co.za)

## IoT tools can greatly reduce anomalies while aiding remote monitoring

Asset condition monitoring, anomaly detection and failure prediction are increasingly important in all industries, says Neels van der Walt, Senior Business Development Manager at Iritron. "To enable the real-time monitoring of assets located in remote locations for the detection of anomalies can become very expensive and, as such, the implementation of solutions for remote equipment monitoring have been slow in implementation. However, this hurdle can now be overcome by leveraging the power of Industrial Internet of Things (IIoT) technologies, organisations can now proactively monitor the condition of their valuable assets, even in remote areas."

### IIoT & MQTT – Essential tools

At the heart of this capability is the MQTT (Message Queuing Telemetry Transport). "This is a secure, lightweight, low footprint publish/subscribe messaging protocol designed for low-bandwidth and high latency networks, allowing a single server to process and transmit one million messages in a second with a millisecond level of latency," explains Van der Walt.

Aiding in this transition is an industrial information platform that can receive

data from multiple remote edge instances and make the data available to multiple applications and users. "This is referred to as an MQTT broker. For data acquisition in remote locations and at plant level, an Edge Instance is required to collect data, and to publish the data to the broker. Some edge instances provide for redundancy in the form of store and forward capabilities, to ensure that data is buffered locally if the communication link to the broker is down, and automated upload of the data once the link is restored," says the energy expert.

MQTT protocols work on a publish/subscribe principal with MQTT brokers playing 'post office' for the data. The architecture allows for publishers to be subscribers, and subscribers can also be publishers for, thus enabling two-way communication.

Security of the system is assured by:

- No open inbound ports are required on the plant side to only publish data
- Multiple edge instances connecting to single or multiple brokers allow for zoning, segregation and secure conduits based on the IEC 62443 architecture
- All transmitted data is encrypted, and user and password authentication is a requirement.

### Real-time remote online monitoring

Via a central platform at a company's head office, MQTT allows remote asset monitoring, including the following features:

- Dashboards, recording history, trends, reports, notifications and alarms
- Information available on a PC, Apple Mac, tablet or smartphone
- Allows end clients access to information via cloud or on-premises architecture.

"Remote assets can be monitored from any location, with any type of measurement or reading being monitored and recorded, whether it be vibration, stress, temperature, flow, pressure or energy consumption/behaviour, allowing all aspects including utility consumption to be monitored," says Van der Walt. For offline monitoring, an automated upload feature is available. "This can be done via mobile app, be it on a tablet, laptop or smartphone with an automated data upload capability and a compact, easily transportable Mobile Service Unit," says Van der Walt. Here are some of the features:

- The mobile service unit is packaged in a robust case on wheels for transport
- The unit allows for connectivity to field instruments by exposing industrial connectors on the outside of the case

- Connection options to the unit from a tablet or laptop include Wi-Fi or fly lead
- The unit includes battery backup.

There are many benefits for online condition based monitoring enabled by IIoT, says the Iritron manager. "You are able to predict equipment failure and avoid unplanned breakdowns and downtime. You can also manage longer service intervals by moving from time-based to usage-based scheduled maintenance, and there is significant energy saving by monitoring equipment health, including power used to detect power consumption anomalies." Users are also able to avoid consequential damage and insurance claims by having a complete operations history of the asset.

"There is enhanced weak spot detection through vibration monitoring in various axis, as well as a reduction in storage and inventory spares costs through better prediction of mean-time-to-failure. This gives you peace of mind from continuous measurement, and you also have raw data for advanced analysis assists with future planning and plant expansion and modification," concludes Van der Walt.

Enquiries: [www.iritron.co.za](http://www.iritron.co.za)

## Pratley aluminium alloy junction boxes are ideal for urban installations

Aluminium alloy electrical junction boxes from leading electrical termination manufacturer Pratley can be used in multiple applications in urban areas to distribute and connect cables. Some examples include connecting power supply cables to external buildings, swimming pool pumps, gate motors, outside lighting, or CCTV camera installations. "These handy junction boxes are also ideal for supplying power to outside lapas and patios," says Eldon Kruger, Pratley's Marketing Director.

Pratley also manufactures aluminium alloy junction boxes to supply main municipal power to houses, the most popular being the Pratley Aluminium Alloy Roof Connection Box and the Pratley Aluminium Alloy Foundation Box. The Roof Connection Box is used where the municipal supply cables run overhead, and the box is installed on the roof to form a connection point between the overhead cable and the supply to the main distribution board (DB board).

Another method of supplying municipal power to a house is by means of underground cables, which is where the Foundation Box is ideal. It is mounted on the outside wall of the house, just above the foundation, hence its name. The mains power is connected inside the Foundation Box, from where the supply cable, in turn, is connected to the main DB board inside the house.

The durability of the Pratley aluminium alloy junction boxes means they are often used to replace damaged, inferior type plastic junction boxes. Pratley aluminium alloy junction boxes are manufactured from a lightweight, strong and impact-resistant aluminium alloy that is powder coated to ensure corrosion resistance and longevity once installed.

"We recommend that any installation is carried out by qualified electricians or CCTV technicians," highlights Kruger. All junction



boxes are tested in Pratley's in-house test laboratory and third-party tested by the SABS to be totally water and dust tight. Unlike some inferior imported junction boxes, Pratley's products do not deteriorate when exposed to sunlight and the elements, which means complete peace of mind for years after they are installed.

Pratley aluminium alloy junction boxes can also be purchased prepopulated with rail-mounted terminals and in a range of configurations and sizes. They also feature built-in cable glands making them the ideal 'turnkey' solution for a multitude of urban electrical connections, says Kruger. All Pratley junction boxes are suitable for both armoured and unarmoured cables, and can also be factory pre-fitted according to customer requirements.

"We have a policy statement that says that the performance of our products must exceed all others on the world market. The Pratley aluminium alloy range of junction boxes is no exception to this statement," concludes Kruger.

Enquiries: [www.pratleyelectrical.com](http://www.pratleyelectrical.com)

## Legrand introduces new industrial indoor & outdoor plugs and sockets

Leading electrical manufacturer Legrand understands the importance of secure, reliable power in the hospitality industry. For that reason, the brand has introduced its industrial P17 Tempra Pro plugs and sockets, designed and developed for easy installation – even in tight spaces – and reliable performance.

The device offers important features including water tightness, corrosion and impact resistance, and temperature endurance. "This means safe and reliable use anywhere," says Legrand. "These plugs and sockets are even safe for use in washing up areas where electrical components are normally vulnerable. P17 Tempra Pro plugs and sockets can also be installed outside on verandas, in gardens, gazebos and storage facilities."

Legrand's P17 Tempra Pro plugs and sockets, available with capacities from 16A to 125A, conform to stringent quality, safety and environmental specifications. This range also meets strict fire safety standards relating to self-extinguishing products and complies with IEC 60309 fire reaction specifications.

Legrand says that mobile and panel mounting sockets for interior and exterior use have an IP44 Index Protection rating

to guard against projections of water from all directions. Straight plugs, with a screw connection, are available from 16A to 32A, from 100 to 500V~ at 50/60 Hz.

"This range also comprises IP 66/67/69 weatherproof mobile, panel mounting and surface mounting sockets that can withstand temporary immersion in water, for example during rain or floods. Straight plugs have a screw connection and are available from 16A to 125A, from 100 to 500V~ at 50/60 Hz," says the brand.

Essential and intuitive features ensure simple installation in tight spaces, freeing up space and ensuring quick, safe and accurate cable connection, as well as simplified maintenance procedures.

Enquiries: [www.legrand.co.za](http://www.legrand.co.za)



## Factors to consider when selecting cables

Cable manufacturer Aberdare Cables reveals the importance of selecting the correct voltage cabling for your factory. "Low voltage in South Africa refers to a nominal voltage up to and including 1kV; medium voltage ranges from 1kV up to and including 36kV; while high voltage to any voltage rated above 36kV," explains Donemore Torerwa, an electrical engineer and General Manager: Product Development & Applications at Aberdare Cables.

"It is vital to consider conductor selection, insulation level, constructional requirements and installation requirements that are necessary in your system," says Torerwa. "Low-voltage cables are typically not oil-filled, whereas high-voltage cables are traditionally oil-filled as they provide insulation and cooling properties to withstand high electrical stresses and dissipate heat effectively."

Low-voltage cables are generally insulated with materials such as polyvinyl chloride (PVC), XLPE (cross-linked polyethylene), or rubber that provides adequate electrical insulation and protection for low-voltage circuits. "When selecting cables, you should consider the existing infrastructure to ensure proper compatibility. XLPE has now become the high-voltage cable insulation of choice because of its higher operating temperature, higher current rating and lower maintenance costs," says Torerwa.

Cable operating conditions should be the starting point when designing a circuit, adds the electrical expert. "Information such as the nominal operating voltage of the system, the highest operating voltage of the system, the nominal system frequency, design lightning and if applicable the switching surge/overvoltage levels of the system are important. Critical, though, is the rated current of the system or the load that may be specified as continuous operation rating as well as cyclic, emergency loading and overload rating. This allows one to specify a cable in a way that it will not exceed the maximum cable operating temperature."

The other fault conditions to consider at design level would be the asymmetrical and symmetrical short circuit for all scenarios for phases to earth, and also the consideration for phase-to-phase of the cable or load and the protection tripping time for both short circuit and earth fault rating. This information will help in determining the most economical cable size for the circuit.

"Besides the basic voltage and current ratings, it is important to consider the type of earthing and the methods of bonding, either single-point bonding, double-point bonding or cross-bonding, as well as confirmation of use of surge limiters to protect the sheath against transient surges," says Torerwa. "In other applications such as single-point bonded circuits, the running of a parallel bare copper earth conductor will be required to ensure earth continuity, enhance the sheath protection, and improve the earth fault withstand level of the system. An insulated earth continuity conductor

should be considered as a means of limiting stray currents from interfering with the operation of the electrical system."

The site information required for cable selection and simulations should include:

- The distance of installation or route and terrain
  - The arrangement of cables or grouping in their installation medium
  - The installation medium (i.e. underground, underwater, ducts, pipelines, cable ladders, suspended (shaded/exposed to sunlight), tunnels, proximity to heat producing equipment and any other application
  - The spacing of the cables and installation format (flat of trefoil) and spacing between groups of cables
  - Transpositioning of cables to ensure equal current sharing and to limit mutual induction effects
  - The positioning of the ECC conductor with respect to the cores and transpositioning to limit the effect of induced voltage and currents
  - The environment where the cable is installed affects the rate of heat loss, hence the soil thermal resistivity, air temperature, depth of burial, conditioning in tunnels and pipes will need to be determined
  - The risk of fire or presence of chemicals in an area has to be determined and the effect of harmful gases or smoke. These will impact the selection of the sheathing material for the cable
  - Water Ingress protection requirements need to be known as there are available options of water-blocking cables (longitudinal or radial)
  - Mechanical load capacity of the cable may have to be considered depending on the method and condition of installation
  - Maximum allowable sheath voltage under normal operation and fault conditions as well as the voltage level at which the cable should operate under transient conditions.
- "Allowance has to be made for proper installation, commissioning and structured testing of the cable before putting it service as poor workmanship may affect the life of the cable drastically," says Torerwa, concluding, "Aberdare Cables is one of the leading cable manufacturers globally, offering cables from low voltage to a high voltage of 132 kV with cables being tested to international and local South African Standards, as well as any acceptable customer preference standard. We also offer technical and design support to customers on the selection of cables as well as simulation for the loading of cables on software as well as providing guidance on installation."

Enquiries: [www.aberdare.co.za](http://www.aberdare.co.za)





## Unleash the power of performance, precision & reliability with Fluke

Commercial buildings commonly have a 208/120V transformer in a delta-wye configuration to feed receptacles. Single-phase, non-linear loads connected to the receptacles produce triple harmonics, which add up in the neutral. When this neutral current reaches the transformer, it is reflected into the delta primary winding, which causes overheating and transformer failures, says US-based electrical manufacturer Fluke.

Another significant transformer problem results from core loss and copper loss, adds the brand, imported and distributed in South Africa by Comtest. "Transformers are typically rated for a 60Hz phase current load only. Higher frequency harmonic currents cause increased core loss due to eddy currents and hysteresis, resulting in more heating than would occur at the same 60Hz current."

Transformers supplying nonlinear loads should be checked periodically to verify their operation within acceptable limits. Transformers are also critical to the integrity of the grounding system.

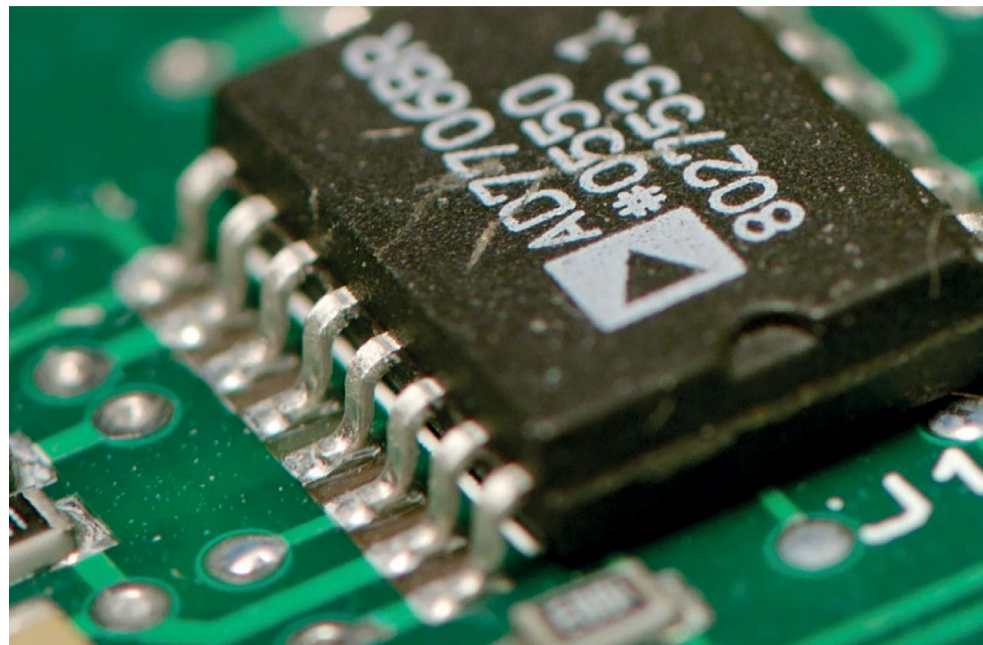
The proper grounding of the transformer is critical, says Fluke's engineering team. "There are several solutions for transformer-related power quality (PQ)

problems, including the installation of additional distribution transformers (Separately Derived Systems), derate transformers and the installation of K-rated transformers, as well as introducing forced air cooling."

In a Separately Derived System (SDS), the distribution transformer is the supply for an SDS. "The key idea is that the secondary transformer is the new power source for all its downstream loads, which is an incredible concept leading towards the development of a PQ distribution system," says Fluke. An SDS helps to establish a new voltage reference, and it lowers source impedance by decreasing, sometimes drastically, the distance between the load and the source.

With K-rated transformers, harmonics cause heat in transformers at a greater rate than the equivalent fundamental currents. This is because of their higher frequency, and there are three heating effects in transformers that increase with frequency: Hysteresis, eddy currents and skin effect.

"K-rated transformers have been widely applied, but there are specific issues with them," explains Fluke. "Many consultants do



not see the need to use transformers with a rating higher than K-13, although K-20 and higher might be supplied as part of an integrated power distribution unit (PDU)."

When it comes to derating standard transformers, some facility managers use a 50% deration as a rule-of-thumb for their transformers serving single-phase, predominantly non-linear loads. This means that a 150kVA transformer would only supply 75kVA of load. "The derating curve shows that a transformer with 60% of its loads consisting of SMPS (switched-

mode power supplies), which is certainly possible in a commercial office building, should be derated by 50%," says the electrical brand.

If heat is the problem, cooling is the easiest and quickest solution. "Break out the fan, turn it on the transformer and use forced air cooling," says Fluke. "Some experienced hands figure that is worth 20-30% on the upside. In any case, it can only help."

Enquiries: [www.comtest.co.za](http://www.comtest.co.za)

## Schneider launches GoPact circuit breaker & transfer switch range



the GoPact MCCB and the GoPact MTS products deliver the same performance and quality that customers have come to expect from Schneider Electric, with enough features to meet the customer's application requirements," says Kamogelo Makwana, Power Products Offer Manager at Schneider Electric.

The GoPact MCCB (Moulded Case Circuit Breaker) and the GoPact MTS (Manual Transfer Switch) are aimed at customers who want Schneider Electric quality and reliability at an affordable price, says Makwana. "These are basic circuit breakers and manual transfer switches to meet the needs of basic noncritical applications."

He adds. "While we already offer a premium range of circuit breakers with market-leading technology, we realised that we are missing an offering for customers within the basic entrance layer of the market. The GoPact MCCB and the GoPact MTS will fill this gap."

The devices are suited to various non-critical applications, such as in low to medium-density commercial buildings, cluster housing estates and complexes, retail stores, mini-sub applications and other non-critical industry applications.

The two devices allows partners to leverage uncomplicated circuit breakers with current ratings up to 800 amps, breaking capacities of up to 70kA and options of a fixed, adjustable and electronic trip units, that cover most of the simple application needs. "As one of our Green Premium offers, GoPact products are packed in 100% recycled cartons, with QR codes for paperless documentation access," concludes Makwana. "As a premium brand, Schneider Electric commands quality and reliability, as well as everything related to the best-in-class technical capabilities

Schneider Electric, considered one of the leaders in the digital transformation of energy management and automation, has unveiled two additions to its Go Series basic offering range – the GoPact MCCB and the GoPact MTS.

The series is Schneider's range of entry-level offerings that comprises cost-effective and simple electrical products offering robustness and simplicity without compromising on the company's quality assurance.

"Designed for the entry layer of the market,

and ground-breaking technology. Our Go Series products still provide customers access to all of this at a

cost-sensitive price point."

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## Himel PVC tape is an electrical essential, says Three-D Agencies

Three-D Agencies stands as a beacon of excellence in the electrical trade, with an unwavering dedication to excellence. As such, Himel's range of insulation tapes is an essential for any electrical worker, says Mark Jenkins, Three-D Agencies' Sales Director. "Himel insulation tapes are a cut above the rest, crafted with precision, and able to offer unmatched insulating properties. They represent a commitment to achievement by Three-D Agencies and Himel."

The insulation tapes are suitable for every project, from residential wiring all the way up to large-scale industrial setups. "These tapes provide a reliable and enduring connection," explains Jenkins. "They are engineered for maximum protection, and form a robust barrier against electrical currents, enhancing the longevity and safety of your installations."

The range of PVC tapes are also flame retardant and decrease the risk of electrical and fire mishaps. "The tapes are manufactured from materials that protect users in the event of a fire hazard. It is also suitable for binding, and colour coding, while the high temperature and voltage resistance make Himel tape an effective solution for protecting electrical wires and ensuring safety in electrical work," adds the distributor's sales director.

The Electrical Conformance Board of South Africa (ECB) is at the forefront of promoting electrical safety, and it works closely with the South African Bureau of Standards (SABS) to regulate the industry

through standardisation. Their joint efforts are aimed at providing guidance, promoting compliance with standards, and offering resources. Key among these resources is an extensive online directory of certified electrical professionals and contractors, as well as easily accessible electrical Certificates of Compliance (CoCs) that are crucial for upholding accountability and safety within the electrical sector.

Electrical installations are required to meet the SANS 10142-1 standard, which details the specifications for wiring in buildings to ensure safety and efficient operation of electrical systems. This standard aligns with international safety and quality benchmarks, setting a high bar for electrical practices. "Through testing protocols, Himel insulation tapes are unmatched in aiding adherence to these rigorous standards," says Jenkins.

The Occupational Health & Safety Act also prescribes specific regulations for electrical installations, underscoring the importance of adhering to safety standards in all electrical work. This includes using the right materials and methods, such as the application of quality insulation tape. Consequently, selecting insulation tape that conforms to these standards is vital for complying with South African laws and guaranteeing the safety and dependability of electrical installations," concludes the executive.

Enquiries: [www.three-d.co.za](http://www.three-d.co.za)

## Increase your lightning protection, warns Pro Lightning

Summer is over and the risk of your property being struck by lightning has dramatically decreased, but that thought-train leads to complacency, warns Johannesburg-based lightning protection specialist Pro Lightning Protection Services. "Now is the best time to re-assess your system and run a maintenance schedule to ensure that everything is operating correctly."

The primary purpose of a lightning protection system is to safeguard lives and property by redirecting the enormous energy of a lightning strike safely into the ground. "Without a robust grounding system in place, lightning currents can follow unintended paths through conductive materials, posing a significant risk of fire, explosion, and injury," warns the team.

When lightning strikes a building or structure, it induces large electrical currents that must be dissipated quickly and safely to prevent damage. A properly designed grounding system ensures that these currents are directed into the earth, where they can disperse harmlessly without causing damage to the structure or its occupants. Pro Lightning says that "a grounding system helps establish equipotential bonding throughout a structure, ensuring that all metallic components, electrical systems, and conductive materials are at the same electrical potential. This minimises the risk of side flashes, arcing, and voltage differentials that can occur during a lightning strike, further enhancing safety."

It is also important to consider the integration of your protection system with existing building systems. "The grounding system must be integrated seamlessly with other building systems, including electrical, structural, and telecommunications systems, to provide comprehensive protection against lightning-induced surges and transient overvoltages. Co-ordination between different trades and disciplines is essential to ensure proper installation and functionality of the grounding system."

Regular maintenance, inspection, and testing of the grounding system are critical to ensure its ongoing effectiveness and reliability. Periodic measurements of soil resistivity, ground resistance, and continuity checks help identify potential issues, such as corrosion, deterioration, or high resistance, and facilitate timely corrective actions to maintain optimal performance.

"The grounding system is the cornerstone of lightning protection, providing a vital link between structure, electrical systems, and the earth. By ensuring the proper design, installation, and maintenance of the grounding system, building owners and operators can mitigate the risks associated with lightning strikes," concludes the team.

Enquiries: [www.prolighting.co.za](http://www.prolighting.co.za)

## The ins & outs of earthing

Earthing protection, also known as grounding protection, is a critical aspect of electrical safety and system reliability in both residential and industrial settings. Earthing protection refers to the practice of connecting electrical systems, equipment, and conductive parts to the earth or a grounding electrode system to prevent the build-up of excess voltage, minimise the risk of electrical shocks, and facilitate the safe dissipation of fault currents, says electrical distributor Major Tech.

Here are some key aspects of earthing protection:

**Safety from electric shock** Earthing protection helps prevent electric shock hazards by providing a low-resistance path for fault currents to flow safely to the ground. In the event of a fault, such as a short circuit or insulation failure, the earthing system ensures that excess current is quickly diverted away from people and equipment, reducing the risk of electric shock.

**Equipment protection** Proper earthing protection safeguards electrical equipment and appliances from damage caused by transient voltage spikes, lightning strikes, and electromagnetic interference. By

grounding conductive enclosures, frames and casings, earthing protection helps dissipate static charges and stray currents, preventing equipment malfunction and prolonging service life.

**Compliance with regulations** Many electrical codes and standards, such as the National Electrical Code (NEC) in the United States and the International Electrotechnical Commission (IEC) standards, mandate the implementation of earthing protection in electrical installations to ensure compliance with safety regulations and industry best practices. Adhering to these standards helps mitigate liability risks and ensures the safety and reliability of electrical systems.

**Lightning protection** Earthing protection is an essential component of lightning protection systems, which are designed to mitigate the damaging effects of lightning strikes on buildings, structures, and electrical systems. By providing a low-impedance path to the ground, earthing systems help dissipate lightning energy safely, reducing the risk of structural damage, fires, and electrical surges.

### Grounding methods

There are several methods for achieving earthing protection, including:

**Single-point grounding** Connecting all conductive parts to a single grounding electrode system, such as a ground rod or grounding plate, to ensure equipotential bonding and effective fault current diversion.

**Equipment grounding** Bonding exposed conductive parts, such as metal enclosures, frames, and conduits, to the grounding system to provide a path for fault currents and reduce the risk of electric shock.

**Grounding electrodes** Installing grounding electrodes, such as ground rods, ground plates, or buried conductors, at strategic locations to establish a reliable connection to the earth and dissipate fault currents safely.

**Earth-leakage protection** Using residual current devices (RCDs) or ground fault circuit interrupters (GFCIs) to detect small leakage currents and disconnect power quickly to prevent electric shock hazards.

**Maintenance & testing** Regular maintenance and testing of earthing systems are essential to ensure their effectiveness and compliance with safety standards. Periodic inspections, resistance measurements, and soil resistivity tests help identify potential issues, such as corrosion, deteriorating connections, or high resistance, and facilitate timely corrective actions to maintain optimal performance.

Overall, earthing protection is a

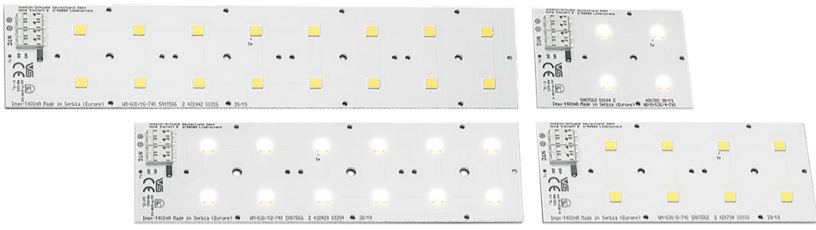
fundamental aspect of electrical safety, ensuring the integrity, reliability, and safety of electrical systems, equipment, and personnel. By implementing proper earthing practices and adhering to industry standards, organisations can minimise risks, protect assets, and maintain compliance with regulatory requirements.

Enquiries: [www.majortech.co.za](http://www.majortech.co.za)





## Vossloh-Schwabe unveils its Linear Gen.3 LED lighting family



German illumination giant Vossloh-Schwabe has lifted the lid on its exciting new generation of LED lights: The Linear Allround 5050 Gen.3 family. "This is a wonderful opportunity to improve on our already high standard and quality of products," says explains Christian Lade from Vossloh-Schwabe's Business Development unit. "This is not a natural evolution of previous products, but rather a new look at technology and how it can best be utilised with existing lighting fixtures."

The LED modules are available in colour temperatures from 2 200K to 5 000K, and in versions with 4, 8, 12 and 16 LEDs. "This family offers high versatility for street and industrial lighting applications," says Lade. "What characterises them is an outstanding

efficiency of up to 217 lumens per watt, an impressive luminous efficacy of up to 11 500 lumens, and a service life of over 100 000 hours. When you look at that kind of lifespan, you can see the savings for the user – this light fitting can help transform any budget."

In addition, Vossloh-Schwabe's new LED family has a high level of electro-static discharge protection, and exceptional anti-sulphur protection to guarantee reliability and a long service life. "In combination with our PrimeLine NFC S-MD DALI2 Dx LED drivers and our compact optics 2x2 and 2x6, this enables our customer to pave the way to a modular, high performance, future-proof lighting system," concludes Lade.

Enquiries: [www.vossloh-schwabe.com](http://www.vossloh-schwabe.com)

## BEKA Schröder leads the illumination way with its BEKAPole range



Local lighting manufacturer BEKA Schröder continues to innovate with its BEKAPole glass fibre-reinforced polyester (GRP) pole range. "The BEKAPole has been part of our success story since BEKA Schröder was founded in 1978," says Nadja Smith, Marketing Manager at BEKA Schröder. "By adopting the latest filament winding technology, we ensure we stay at the forefront of pole innovation and continue to provide our customers with durable, high-performance solutions for their lighting and infrastructure needs."

The BEKAPole luminaire can be used for highways, main roads, residential streets, sportsfields, decorative lighting, area lighting, post-top lighting, perimeter security, parks and gardens,

as well as for flag poles. "The range is manufactured through the filament winding process whereby continuous glass rovings are fed through a polyester resin bath and wound at an even tension onto a rotating mandrel, resulting in a mass to resin ratio of 70:30 and making full use of the tensile strength of the glass filament which is more than that of steel," continues Smith.

The luminaire's clean aesthetics make it a favourite with architects, developers and local authorities, coupled with its strength, ease of installation and inherent safety for road users.

### Advantages of using the BEKAPole luminaire include:

- Sustainable: The manufacturing process for glass fibre poles is much kinder to the environment than metal or concrete products
- Lightweight: The low mass saves handling, transport and erection costs during installation. No extra equipment is needed to load or offload the poles
- Vandal resistant: High-impact strength of polyester gel coat and glass filament wound structure and material offering no scrap value, therefore there is a very low risk of theft
- Non-corrosive: The BEKAPole has been designed so there is no above- or below-ground corrosion in salt climates or acid soil, while remaining maintenance free at the same time

Enquiries: [www.beka-schreder.co.za](http://www.beka-schreder.co.za)



## Genlux Lighting adds in-house lighting laboratory to its manufacturing facility

Illumination expert Genlux Lighting has introduced a new laboratory to its facility in Germiston, on Johannesburg's East Rand, bringing specialised light testing equipment to its already impressive factory.

"We are now able to conduct a greater variety of tests than previously, when we were wholly reliant on external certified third-party labs for testing purposes," says Ian Marais, Genlux's Systems Engineer who is in charge of the brand's product developers and lighting designers. "Having our own in-house test facility enables us to do batch testing to more accurately establish the integrity of our products in accordance with their official certification requirements. We can now do more detailed and customised testing than before. In addition, it gives us much more scope than previously to develop and test workable new lighting designs."

Marais says that Genlux's new facility gives the company an advantage in that it can now meet customers' requirements more efficiently, accurately and rapidly. "The cutting-edge high-tech test equipment Genlux has acquired for this lab comprises a goniophotometer and a spectrometer that operate automatically

in tandem when testing lighting products or simulations of lighting designs," says Marais.

The synergy between the two instruments enables Genlux to optimise lighting designs, ensure uniform illumination, evaluate colour quality and enhance energy efficiency. The goniophotometer may best be described as a sophisticated specialised computer and is situated at one end of the rectangular lab, while the spectrometer, which is situated at the other end of the lab facing the goniophotometer, is a specialised high-tech camera.

"A luminaire that has to undergo testing is mounted on the top of the goniophotometer and in the test procedure the luminaire is rotated in a series of different angles to enable the two instruments to register and record the luminaire intensity and distribution," says Marais, concluding, "The instruments are able to produce photometry data files in accordance with an internationally recognised data file format that is fed into lighting design software, which in turn generates the lighting design simulations that are tested for accuracy and effectiveness."

Enquiries: [www.genluxlighting.co.za](http://www.genluxlighting.co.za)

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## ams Osram's Osolon Pure provides maximum flexibility and luminance with minimal size

ams Osram is expanding its product portfolio by adding another particularly powerful and versatile LED intended for professional use in indoor and retail lighting, but also ideal for the special fields of architectural and stage lighting, as well as for medical applications: Meet the Osolon Pure 1414.

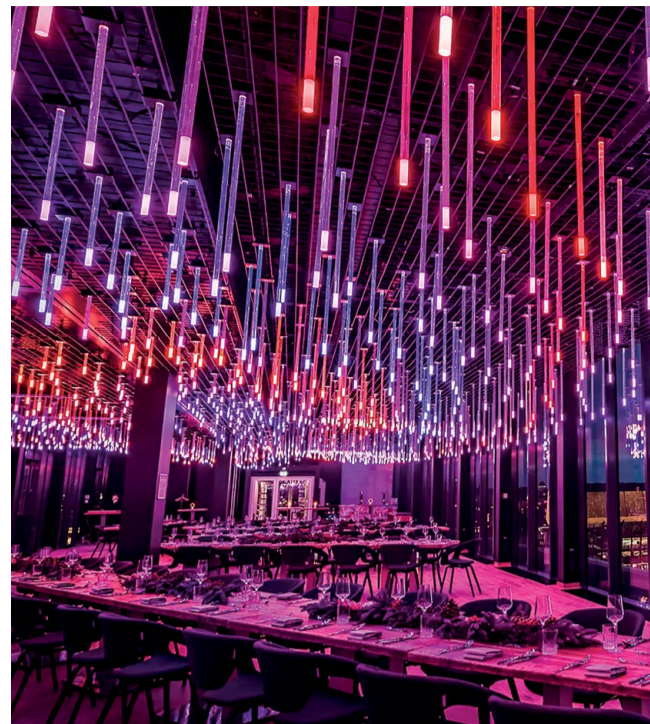
"The Osolon Pure product family is well known for its large colour spectrum, durability, and excellent lumen density," says Martin Wittmann, Senior Director of Global Marketing – ams Osram. "With Osolon Pure 1414, the latest generation of robust high-performance all-rounder LEDs is available. Thanks to its small dimensions of only 1.4mm x 1.4mm, it is the most compact solution currently offered on the market."

The LED boasts improved handling and thermal management while ensuring excellent efficiency. The special, installation-friendly LED concept, as well as the

small size, enable minuscule designs and particularly narrow clustering. "Thanks to this easy scalability, the latest-generation of LEDs from ams Osram provides great flexibility for customers to create perfectly customised lighting solutions – wherever extremely compact LEDs with a very high light output are required," adds Wittmann.

The new LED is available in two versions: White (from 1 800K to 6 500K), and Colours (from 630 nm to 455 nm). "The Osolon Pure LED is a Lambertian emitter that comes in a true chip-scale housing with the highest luminance currently available on the market. Made without bond wires and not requiring any free space in between, its excellent quality makes it the ideal solution for dense clusters providing maximum light output," concludes Wittmann.

Enquiries: [www.osram.com](http://www.osram.com)



## Radiant tackles tough coastal elements head-on with its floodlight range

Coastal environments are beautiful but they also present unique challenges when it comes to lighting, says illumination giant Radiant. "Whether you are looking to enhance the safety of your property, or you are simply aiming to create additional illumination, choosing the right coastal floodlight is essential." Here are key considerations, features, and benefits of coastal floodlights.

**Corrosion resistance** Coastal areas are notorious for their harsh, corrosive conditions due to saltwater exposure and constant sea breeze. Opt for coastal floodlights

constructed from corrosion-resistant materials such as ABS (Acrylonitrile Butadiene Styrene). It provides durability and longevity, ensuring that your lighting fixtures withstand the test of time in the challenging coastal environment. Radiant's range of coastal floodlights also feature stainless steel screws for added durability.

**IP rating for water & dust resistance** Investing in coastal floodlights with a high Ingress Protection (IP) rating is crucial for ensuring they remain effective and safe in coastal settings. Look for fixtures with at least an IP65 or higher rating, indicating robust protection against water and dust. This feature is especially vital to combat the corrosive effects of saltwater and the constant exposure to oceanic elements.

**Sealed & gasketed design** To further fortify your coastal floodlights against the corrosive effects of saltwater, choose fixtures with a sealed and gasketed design. This ensures that internal components are protected from moisture and debris, maintaining the integrity of the lighting system over time. A well-sealed design not only enhances durability but also contributes to the overall performance and reliability of the fixture.

**Optimal illumination with LED technology** LED technology has revolutionised outdoor lighting, and coastal floodlights are no exception. Opt for LED fixtures that offer superior energy efficiency, longevity, and exceptional illumination. LED lights provide a crisp, clear light output, enhancing visibility along coastal areas while minimising energy consumption and maintenance costs.

**Directional flexibility for accentuating coastal features** Coastal properties often feature unique landscapes, waterfronts, and architectural elements that deserve special attention. Choose coastal floodlights with adjustable and directional features, allowing you to accentuate specific areas or highlight the beauty of the coastline. Directional flexibility enables you to customise the lighting to suit your aesthetic preferences.

**LiFePO4 batteries vs Lithium-ion batteries – what is the difference?** Radiant's coastal floodlights are

fitted with LiFePO4 batteries that offer considerable advantages over lithium-ion batteries. These are just some of the reasons that make them a standout feature in this new range of fixtures:

- **Safety** One of the primary advantages of LiFePO4 batteries is their excellent safety profile. They are inherently more stable and less prone to thermal runaway or overheating. This makes LiFePO4 batteries a safer choice, particularly in applications where safety is a critical concern.
- **Long cycle life** LiFePO4 batteries typically offer a longer cycle life compared to traditional lithium-ion batteries. They can endure a higher number of charge-discharge cycles before experiencing a significant decline in performance. This longevity makes LiFePO4 batteries well-suited for applications where durability and a prolonged operational life are essential, particularly solar lighting products.
- **Stable chemistry** The stable chemical structure of LiFePO4 contributes to its enhanced thermal and chemical stability. This stability minimises the risk of thermal runaway reactions, making LiFePO4 batteries a reliable and robust choice for applications requiring consistent performance over an extended period.
- **High discharge & charge rates** LiFePO4 batteries can handle higher discharge and charge rates compared to some other lithium-ion chemistries. This feature is particularly beneficial in applications that require quick energy release and absorption.
- **Environmentally friendly** LiFePO4 batteries are considered more environmentally friendly than some other lithium-ion batteries due to the absence of toxic materials like cobalt in their composition. Cobalt extraction and disposal can have significant environmental impacts, and the use of LiFePO4 helps mitigate these concerns.

Enquiries: [www.radiant.co.za](http://www.radiant.co.za)



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## Ledvance Everloop linear individed Gen 2 fixture provides superior lighting

Illumination expert Ledvance continues to focus on sustainability with its Everloop range of products. "The Everloop fittings and fixtures have been designed to be user-friendly in that they can easily be worked on without needing an expert, while also being efficient as LEDs – it is well documented how efficient LED lights are with regards to energy consumption, as well as durable with far longer lifespans than traditional bulbs," says Margaret Maree, Ledvance's Marketing Manager.

The new Everloop linear individed Gen 2 comes in two specs: the 1 200 and 1 500. "They are pendant luminaires with direct and indirect light emission from a single or light line office application with either 1 200mm or 1 500mm," continues Maree.

For Ledvance, sustainability is not a destination but rather a continuous journey. "This project is about more than just environmental awareness," explains Maree, "It is about adapting our (mankind's) behaviour, reducing global CO<sub>2</sub> footprint and emissions, encouraging more collaboration, and promoting our ethical business practices. This involves new product lines, annual reductions in CO<sub>2</sub> emissions by 1 million tonnes in transportation, and improved demand planning using artificial intelligence."

Ledvance's Everloop range takes its name from the Loop Principle – Kirchoff's Loop Rule states that the sum of all the electrical potential differences around a loop is zero. Simply put, all of the energy from the sources must be dissipated by all the sinks in any loop. "Our Everloop concept stays true to the slogan 'from line to loop', and it promotes the transition from a linear to a circular product cycle," explains the marketing executive. "This means that in principle, our Everloop luminaire housing has an almost unlimited life." The components within an Everloop luminaire housing can be recycled and their materials used to manufacture new products. "This is in line with the European Union's initiative to produce less and less electronic waste," says Maree.

With Everloop, Ledvance is hoping to promote a circular economy. "We chose the loop principle in our design so that rather than replace an entire luminaire fitting, users will only be required to replace individual light sources and drivers conveniently and easily," says Nuno Paiva, Head of Professional Portfolio Management at Ledvance. "This makes everloop a sustainable and convenient choice for installers, planners, and facility managers, among others for sustainable efficiency of industrial and office applications as well as public buildings."

Benefits include an extended lifetime and reduced waste, as well as cost

savings, and maintaining the same look in architectural settings as the luminaires' components can be replaced rather than the entire fitting being replaced. "Everloop is our answer to going from a linear to a circular product lifecycle," concludes Paiva.

Enquiries: [www.ledvance.co.za](http://www.ledvance.co.za)



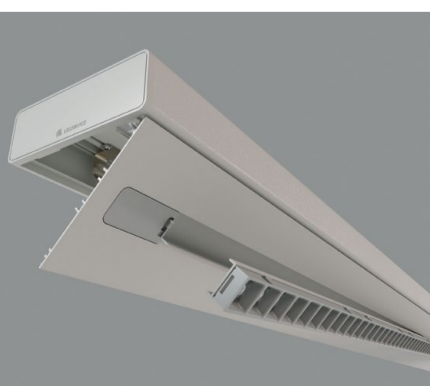
# LEDVANCE EVERLOOP THE FUTURE IS CIRCULAR

### REPLACE, DON'T WASTE

With LEDVANCE, you have got the power to make the change. Sustainability is not a destination but a continuous journey. It's about more than just being environmentally conscious; it's about reshaping our practices, reducing our carbon footprint, creating collaborative spaces, and promoting ethical business conduct. This includes creating new product ranges, minimizing CO<sub>2</sub> emissions through efficient transport facilities, improving demand planning with AI and optimizing our headquarters to reflect our sustainability principles. LEDVANCE EVERLOOP is a range of products that offers greater convenience and greater sustainability. These innovative products are designed so that the light sources and drivers can be easily replaced, which means the luminaires themselves can remain in use almost indefinitely. LEDVANCE EVERLOOP products is not stocked locally and only bought in on request.



FOR MORE INFO  
SCAN QR CODE





## Dehn Africa



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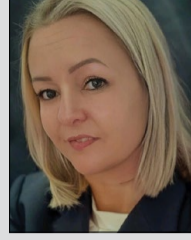


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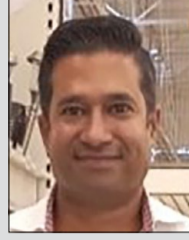


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Operations Executive

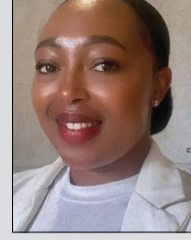


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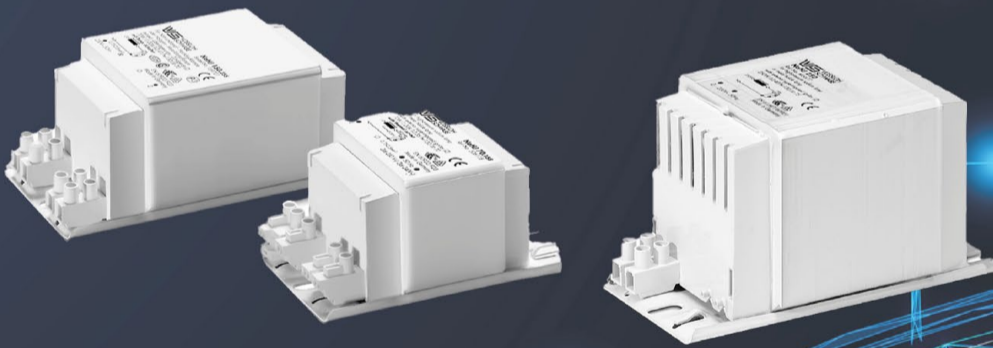
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## BRIGHT SPARK

### TUBE TORMENT

A woman enters a large metal tube. She is overcome with fear and clenches her husband's hand tightly. She is visibly shaken. Her husband gently rubs her arms and speaks softly to her, but is unaffected himself. A few hours later, the woman's husband tells her that it's time to go and her torment ends. What was happening to the woman?

### APRIL SOLUTION

The man jumped out of his first-floor window, which was only a few feet from the ground.

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- Tools of the trade
- Lighting

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- Cables and cable accessories
- Standby and emergency power
- Lighting

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