

REVOLUTIONISING WACO INDUSTRIES: THE OVERHAUL OF CALL-AND-COLLECT SERVICES



In a bold move towards enhancing customer experience, Waco Industries, an electrical importer and distributor operating in Southern Africa for 75 years, is undergoing substantial transformations in 2024 by introducing a revamped Call-and-Collect service at its Johannesburg warehouse.

"The ambitious project aims to simplify and streamline the purchasing process for customers, making it more user friendly than ever before, and giving the customer access to more than 7 200 individual products," explains Ravinash Naidoo, Marketing Manager at Waco Electrical.

The core focus of this initiative is to redesign existing systems, allowing customers to effortlessly access and purchase all available Stock Keeping Units (SKUs). "Gone are the days of limited options; the new system is designed to offer an extensive range of products, providing customers with unprecedented choices within a time frame of two hours from point of order to point of collection," says Naidoo.

He adds that this undertaking involves a significant capital investment, demonstrating the commitment of the

business to breathe new life into the concept of call-and-collect services. "The infusion of funds is not merely a financial transaction; it signifies a strategic commitment to innovation and customer satisfaction."

The revamped system and warehouse premises promise a seamless and efficient experience for customers, ensuring that the Call-and-Collect service becomes a go-to option for those seeking convenience and a wide array of product choices. As a business, Waco Industries embraces change, and it is not only adapting to evolving customer preferences but also setting new standards for the industry.

"The analytics behind this project has been staggering. We have a brand-new look and feel in the warehouse," explains the Marketing Manager.

The massive changes in Waco Industries, with the introduction of a redesigned Call-and-Collect service, represent a pivotal movement in its business landscape. The project's emphasis on simplicity, user friendliness, and a substantial capital investment underscore a commitment to meeting the dynamic needs of

customers and redefining the future of electrical retail and wholesale.

Naidoo concludes, "We want our customers to know that they can place an order and not worry about issues. We will keep them informed throughout the process, and within two hours, we will have orders 100% perfectly executed and ready for collection. This affords our customers a better ordering experience and makes conducting business easier and faster for them."

Later this year:

Anticipate a further enhanced customer experience soon as Waco Industries unveils its updated, fresh new website later this year.

Naidoo says the upcoming launch promises not only a modernised design, but also innovative features aimed at elevating customer interaction with the Waco Industrial Electrical Distributor platform.

"Stay tuned for a seamless and enriched online journey that reflects our commitment to continual improvement and customer satisfaction," says Naidoo.

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With yet another new year starting with the dreaded loadshedding and grid instability, it is no secret that the industry and marketplace has become saturated with a variety of brands and options when it comes to back-up power systems. This adds to the

already-significant consumer confusion in selecting the best-suited power system for their home or office, which is stressful at best.

Thanks to regulations, it is safe to say that most credible suppliers, like leading electrical manufacturer and distributor Voltex, have placed

priority on quality when it comes to its product and brand offering. This gives consumers comfort when ticking this critical box in the decision-making process. With such a large capital outlay involved in acquiring and installing back-up power solutions, regardless of size or complexity, informed consumers do not wish to go through the process of purchasing and installing back-up systems, only to be found wanting when the lower-end products fail early

in the operation phase. This leads to unexpected frustration, delays and further capital outlays.

Savvy consumers know the value of quality and solid guarantees, as well as making sure that they buy solutions from reputable companies who can offer them peace of mind with their purchases – after all, back-up power systems are not cheap by any means.

This need is capably met by local business CHASE Technologies, with its first-class range of back-up products that are available directly through Voltex – all 54 branches nationwide are keeping stock. The products, systems and back-up solutions are carefully selected to fulfil the needs of each individual customer, and while this means that CHASE systems cannot aim to be the cheapest, these premium products are still available at reasonable mid-market pricing points.

Within the brand's wider array of lithium-ion energy products, which can be utilised in both commercial and residential applications, CHASE's renewable range covers low- to high-voltage Megarevo hybrid inverters, as well as high-end 51.2V and 192V LiFePO4 battery systems. CHASE's product range has passed various local and international testing standards, is flexible in terms of configuration (including multi-parallel connections), and features convenient operations and maintenance systems thanks to features such as auto grid switching, intelligent EMS management and more.

CHASE's inverter range carries a five-year guarantee, while its batteries all carry an unprecedented 10-year/5 000 cycle repair or replace non-pro rata warranty. Most batteries available in South Africa carry a warranty commensurate in value with the remaining term of the cover, causing the user to dip their hands deep into their pockets again should the battery fail.

What separates the CHASE brand from other brands and products is user peace of mind. Dedicated support and quality commitment from CHASE lay the foundations of a brand created around the actual needs of users, from the first point of the consumer cycle, right through installation and management, and even beyond. The CHASE energy standby options are what is needed to take the "power" and put it back in the user's hands.

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WORX mini USB screwdriver fits every job

Equipment and tool manufacturer WORX has introduced a brand-new mini electric screwdriver that fits the smallest of jobs and is fully rechargeable via USB cable.

The WX240 4V screwdriver comes with 24 handy colour-coded bits to fit all fixture types, from flat and Phillips, to hex and torx screw heads. The set also has a 50mm impact bit and a 60mm magnetic holder that keeps the bits firmly attached during operation.

The stand-out feature of this tool is the three-gear torque adjustment feature that allows users to overcome various working conditions with ease – you can apply up to 5Nm of torque while using the screwdriver. This means that users can complete intricate assembly or repair jobs, as well as more heavy-duty applications that require more strength being applied through the tool.

The screwdriver also has dual LED lights at the front so you can light up your workspace, a soft-comfort grip so that users'

hands do not get sore while working with the WX240 regardless of the space you are in or the angle of your wrists to get into the tightest of areas, as well as forward and reverse buttons that are conveniently located where users' thumbs are positioned on the tool's body. The complete unit weighs just 260g, allowing for fatigue-free operation.

The device features a fast-charging USB-C connection and takes 1.5 hours to recharge from empty to 100%, with up to one hour of operation time at 300rpm. The device measures 35 x 35 x 183mm, making it easy to work in tight places, and there is added battery temperature protection built into the screwdriver body. The travel-storage box holds the screwdriver securely in place, designated slots for the bits, as well as the USB recharge cable that can plug into any USB source to recharge the WX240, including your car USB plug.

Enquiries: www.worx.co.za



First Cut upgrades Pinetown branch with new premises

Cutting and welding specialist First Cut has moved to a new shop that Sales Director Stuart Beck says "will provide even better sales services. We are in a large industrial hub outside of Durban, and we are expecting to see our sales increase thanks to improved visibility, ease of access and better facilities".

Location is important for any business, notes Beck, adding that the venue's strategic location just off the N3, the main national route into Durban, is convenient for suppliers and customers alike. "The high visibility and positioning of the premises makes it very convenient and accessible for customers. Our parking facilities have also dramatically improved. Now we can offer our customers safe, secure parking in a gated area that is always sufficient for all visitors at any time."

The available workspace has increased substantially within the property as well. "This has allowed us to

increase and improve the look and feel our reception and office space, as well as our product display and demonstration area that are filled with our product offerings," he says. "Our machines and consumables are on full display, and from the moment customers park their vehicles and walk into our premises, their experience is easy, efficient and welcoming."

Beck adds that the number of welding sales opportunities at the Pinetown branch has increased dramatically, clarifying, "Our year-on-year sales of welding consumables have been excellent, and all divisions have performed very well. At the same time, the collaboration with our subsidiary, Gas Safety International, which provides certified training, is an excellent fit with the company's overall operational mantra of 'safety first'."

Enquiries: www.firstcut.co.za



Kress cools down jobsites with a powerful new fan

Power tool manufacturer Kress knows how to keep contractors cool, calm and collected on the jobsite with its new KU066.9 power fan. Besides being small, it features cordless functionality, which means the fan can be positioned anywhere on-site.

The dual-purpose fan comes with an AC 220V/DC 20V lithium-ion battery that can be charged while the fan is in use, and the battery is powerful enough to run for 24 hours. It features two speed settings – 1 500 and 2 500rpm, both of which are powerful enough to cool down the user and the area it is being used in, while also not too strong so that it disturbs dust or other particles in the workspace. The 240mm blades provide ample breeze, while the 360-degree moveable head allows clean air to be sent in any direction.

While the KU066.9 fan has a sturdy foot construction, it also comes with a hook design that allows it to be suspended in various positions. The frame is made from aluminium and weighing just 2.4kg, the fan is lightweight enough to be transported by anyone.

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Recomposing a well-known (energy) symphony piece requires digitisation, says Schneider Electric



In times of crisis – like the relentless loadshedding and grid instability – it is essential that a country explores a disruptive approach, said Taru Madangombe, Vice President: Power and Grid for Middle East and Africa at Schneider Electric. “It is not only South Africa’s current energy crisis that is driving disruption, but rather a multitude of industry related trends. These range from new utility revenue models and climatic impacts, to cybersecurity risk and the rise of energy prosumers.”

“The overall electricity value chain (being made up of Generation, Transmission & Distribution) can be likened to an orchestra and each new instrument, whether it is a distributed energy resource or prosumer, requires the reimagining of a well-known symphony to ensure the music remains harmonious and recognisable, and thus the smart GRID becomes the conductor or master of this orchestra,” says Madangombe.

Digitisation is a key factor in maintaining harmonious grid operations. “This is fast becoming a driving force for the industry,” says the energy specialist. “The landscape is rapidly evolving, and digitisation is going to be of critical importance.” He adds that South Africa needs to consider the entire energy value chain, from energy efficiency measures within homes, through to innovative grid solutions that will help save the grid.

“Technology, particularly coupled with software digitisation, is key to creating a more energy-conscious and flexible energy infrastructure,” he explains. There are many other significant benefits to digitisation.

1. Grid management

Digital technologies enable smarter grid management and control. Grids

Digitising CoCs to improve service and accuracy

While many contractors still issue handwritten Certificates of Compliance (CoCs), there is a new thought pattern, thanks to digital companies like eWorksManager. Turning paperwork into digital documents.

eWorksManager has designed several software programs to help contractors and other industry professionals with their day-to-day work operations, but the most innovative product is Electrical Contractor Software. “Electrical Contractor Software is an all-in-one job management tool,” says the company’s design team. “It has functionality that includes lead management, quoting, job scheduling, invoicing and digital documentation – including CoCs.”

The move to digitising these important certificates (and other paperwork) is

about more than just reducing the use of paper, says the team behind the software application. “This process reduces manual data capturing, it improves accessibility, and it enables real-time collaboration.”

The benefits include:

1. Improving accuracy

Errors are commonplace when it comes to capturing data manually. Using this kind of digital tool reduces the risk of error, ensuring more accurate and reliable information.

2. Time & cost reduction

Digitisation makes the issuing of CoCs quicker and easier than traditional methods. Processes like printing, mailing and storing physical certificates falls away, while searching for a specific CoC is easier and quicker thanks to your device’s powerful capabilities.

3. Ease of access

Digital files are tiny in size and thousands can be stored online in the most basic of cloud storage plans. This means that you will also no longer need physical storage lockers and storage rooms. You can also allocate privileges to any number of users on your team, meaning

they can all search for documents that they need individually, rather than asking one person to find all the documents.

4. Improved security

Should a paper CoC or other document be damaged or lost, replacing it or ordering a duplicate can be frustrating and there is always a delay, most often because relevant authorities’ systems are offline. Digital CoCs can be stored safely anywhere, from your email and cloud storage, to your phone, tablet or even a flashdrive.

5. Technology friendly

eWorksManager’s software comes in two formats: Online, where you log into the software in a cloud-style system and work from there, or app for your smart device. That means you can generate a CoC while you are still on site, mail it to your client, and still store it on your business’s storage facility. You can also perform tasks such as quoting, invoicing, team tracking, and even run through Health & Safety protocols with your team.

Moving from paper to paperless is going to be the best thing you can do as an electrical contractor. No one likes admin, and with easy-to-use apps like Electrical Contractor Software, technology has never been less daunting to embrace.

Enquiries: www.eworksmanager.co.za



Digital trends that will make electrical contracting that bit easier

Digital technology and tools are popping up on the marketplace daily, leaving you scratching your head about what works, what to avoid and what to keep track of. Tech and business website www.esub.com shares a couple of digital trends for electrical contractors.

Internet of Things (IoT)

IoT will play a significant role in building automation. Electricians will need to adapt to installing and maintaining interconnected systems that enhance energy efficiency, security, and overall functionality across all aspects of construction.



Advanced diagnostic tools & equipment

Electricians are getting access to more and more advanced diagnostic tools, such as the M30 handheld thermography camera from Three-D Agencies that allows users to accurately measure temperatures on a jobsite without putting themselves at risk. These kinds of tools leverage artificial intelligence and machine learning, allowing operators to quickly identify and resolve issues in electrical systems.

Augmented reality (AR) for maintenance

Electricians will benefit from AR applications for maintenance and troubleshooting during projects and jobs. AR glasses or devices may provide real-time information, schematics and instructions on a heads-up display while working on electrical systems, allowing them to use both hands while working.

Drone technology

Aerial drones equipped with cameras and sensors can be utilised for site surveys, inspections, and maintenance of electrical infrastructure. Electricians can use these tools in hard-to-reach or hazardous areas.

Advanced training simulations

Virtual and augmented reality training simulations are becoming more popular as the technology becomes more readily available. This immersive technology allows for realistic scenarios without real-world risks, enhancing skills and safety while contractors are brushing up on their skills or apprentices are busy learning their skills.

that have had sensors and other networking systems integrated automate the detection of issues, adapt to changes in demand, and optimise the flow of energy. This enhances grid reliability.

2. Enhanced energy efficiency

Fully functioning digital tools allow for the real-time monitoring and data analysis of the energy system. This means that users and engineers can assess the performance and highlight areas where the system needs

attention to work better.

3. Predictive analytics

Forecasting helps grid operators manage the intermittency of renewable energy, ensuring a stable energy supply.

4. Decentralisation of energy generation

Small-scale renewable energy installations, such as rooftop solar panels, can be integrated into the national grid with relative ease. This democratises energy

production and reduces reliance on centralised power plants that are already under strain.

“The energy trilemma is even more unique in the African context, as reliability, sustainability, and affordability are significant challenges. To overcome these, we must look at energy efficiency, electrification, and digitisation as a combined solution,” concludes Madangombe.

Enquiries: www.se.com



CEDSA kickstarts 2024 by adding Himel automation products to its portfolio of brands

CED (Consolidated Electrical Distributor) is thrilled to announce its latest venture into the realm of automation with the introduction of the Himel automation product range. Richard Egenrieder, General Manager (GM) of CED, expresses enthusiasm about this strategic move, highlighting the challenges faced in 2023 due to shipping delays but emphasising his delight in having Himel automation products now readily available nationwide.

As CED experienced substantial growth in both its customer base and product offerings, Egenrieder sheds light on the increasing inquiries from customers regarding new product categories and divisions. "The automation sector, encompassing variable speed drives, HMIs (human-machine interfaces), PLCs (programmable logic controllers) and other cutting-edge products, emerged as a recurring theme when interacting with our customers," says the GM, whose proactive approach involved extensive research and collaborations with foreign suppliers, ultimately leading to the discovery of Himel, an internationally recognised brand with decades of industry presence.

Egenrieder emphasises, "Himel is an internationally established brand, and it boasts a rich legacy in the industry. Its product range stands shoulder to shoulder with any other brand in the market, making it an ideal partner for CED." He adds, "With an expansive array of high-quality switchgear and motor control, Himel is particularly esteemed for its automation products. This partnership enhances competition and elevates product quality, aligning perfectly with CED's commitment to excellence."

While not importing the entire Himel product range, CED proudly holds exclusive rights to the automation range showcased on its website. Egenrieder acknowledges the complexities of bringing international products into the South African market, highlighting the importance of meeting or exceeding local requirements. "The selected products were carefully chosen to align with CED's mission of delivering quality products that cater to customers' needs effectively at economic pricing," he says.

CED assures its customers that the Himel range guarantees unparalleled reliability and performance. Egenrieder confidently states, "Customers will immediately notice the difference when using Himel products." He highlights CED's position as one of over 100 Himel distributors globally, underscoring the magnitude of the brand.

Currently CED's list of Himel products includes soft starters and variable speed drives that range from 0.4kW up to 850kW, smart pump drives, and the solar series of products, as well as the official Himel accessories to enhance all the above products. "Our containers were recently cleared through Customs and all of our branches across the country have stock on their shelves," says Egenrieder.

"We are excited about this partnership, and the potential – Himel is a reputable brand, and with the launch of our automation support desk, with over 30

years' experience as a collective, we are confident we will be able to offer clients the correct solutions and a competent support for the Himel products."

Enquiries: www.cedsa.co.za



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Optimising distribution board performance: Strategies for load reduction

In today's rapidly evolving business landscape, the efficient management of electrical resources is paramount to ensure the seamless operation of any facility. Electrical distribution boards (DB boards), serving as the backbone of power distribution in a building, play a pivotal role in sustaining operations. Recognising the importance of optimising these systems is leading businesses are increasingly exploring strategies to reduce the load placed on DB boards, says Etienne Delpont, Vice President & Channel Manager for Smart Power at ABB Electrification. "You need to take great care with your distribution boards to maintain clear operation. One approach is to alleviate the strain being placed on your DB board to enhance reliability and mitigate potential risk," says Delpont.

Energy audit & load analysis

Initiating the process of load reduction on your DB board requires a comprehensive understanding of existing energy consumption patterns. "Conducting an energy audit, facilitated by professionals, allows businesses to pinpoint areas of excessive load," explains Delpont. A detailed load analysis identifies peak usage times, enabling strategic load-shedding measures without compromising operational efficiency.

Load balancing

The uneven distribution of loads across phases can severely strain DB boards and

jeopardise their longevity. Implementing load balancing measures ensures a more equitable distribution of power, preventing overloading of individual phases. "This proactive approach enhances the board's overall efficiency and minimises the risk of unexpected failures," explains Delpont.

Power factor correction

Optimising the power factor is essential in reducing the reactive power that is drawn from the electrical distribution system. Power factor correction devices can be strategically deployed to improve power factor levels, resulting in increased system capacity and reduced strain on the DB board. This not only enhances efficiency but also contributes to long-term cost savings.

Equipment upgrades & modernisation

Outdated or inefficient equipment can significantly contribute to excessive loads being placed on DB boards. "Upgrading to energy-efficient devices and adopting modern technologies can improve overall performance," says Delpont. "Consideration should be given to replacing ageing components and integrating smart technologies that enable real-time monitoring and the control of power distribution. He adds that installing products such as ABB's S800P high-performance mini circuit breaker is a good idea as you are given peace of mind knowing that you have a quality product



installed that will perform exactly as you need it to.

Implementing energy conservation measures

Reducing the overall demand for electricity is a sustainable approach to alleviating stress on DB boards and your entire system, although there is only so much that you can do. "Implementing energy conservation measures, such as LED lighting systems, energy-efficient HVAC solutions, as well as optimising equipment usage schedules, can contribute to substantial load reduction and operational cost savings," says Delpont.

Contingency planning & redundancy:

Implementing robust contingency plans and redundancy measures ensure critical operations can be sustained even during unexpected peak demand periods and

loadshedding. This strategic plan involves identifying mission-critical systems, then implementing backup power sources, and designing fail-safe mechanisms to protect against unforeseen electrical load spikes.

"Proactively reducing the load on DB boards is a critical aspect of ensuring the reliability and longevity of power distribution systems. By engaging in comprehensive practices, such as energy audits and upgrading equipment, businesses can strengthen their electrical infrastructure against potential disruptions. This strategic investment not only enhances operational resilience, it also positions organisations to adapt to future challenges in the dynamic landscape of modern business," concludes Delpont.

Enquiries: www.abb.com

Improve safety with tips & tools from monitoring specialist Omniflex

Omniflex is a leader in designing and manufacturing electronic products and systems for the automation and control industry, specialising in remote monitoring equipment. For this reason, the company is perfectly suited to exploring topics such as signal conditioning and why this area of focus should be of critical importance to all businesses. "The measurement and control of physical properties are the foundation of all critical industrial technologies," explains Ian Loudon, International Sales & Marketing Manager at Omniflex's head office in the United Kingdom.

"Automation procedures for industry 4.0, process control, data acquisition and alarm processing all rely on the conversion of physical signals to a standardised, usable

format that engineered systems can reliably use to manage industrial processes," says Loudon. At its simplest, signal conditioning is the process by which physical properties such as temperature, humidity, pressure, vibration, frequency, presence or absence, relay logic, and flow are converted by transducers into usable electrical signals, suitable for measurement and control systems."

Signal conditioning is an interface between the plant and the field. Control and monitoring systems are sensitive, and they need to be protected from harsh environments. "Voltage spikes, high temperatures and electrical noise are all potentially damaging, and signal conditioning provides protection to mitigate these harsh field conditions, typically using electrical isolation

(galvanic or optical), noise immunity and surge protection mechanisms," adds the Omniflex executive.

While Omniflex does perform large-scale customised work, it does have a commercial off-the-shelf signal conditioning unit, the Omniterm TXB, that can be installed in just about any process.

Challenges of signal conditioning

Electromagnetic interference (EMI) is one of the biggest challenges involved with signal conditioning in industrial environments, and any factors that jeopardise the accurate transmission of signals to the control system must be dealt with. "To resolve this, the signal conditioning system is electrically isolated from the plant at an industry standard of 1 500 VAC, meaning this is the maximum difference between input and output that the signal conditioner can handle without breaking down," says Loudon.

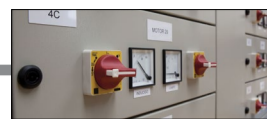
Signal amplification and attenuation are also issues that require attention with regards to signal conditioning and monitoring. "If signals must travel long distances, tens or even hundreds of metres, they can attenuate because of wire resistance, meaning an inaccurate signal reaches the control system. Similarly, amplification of low-level voltage signals is complex, as any interference or non-linearities can be amplified along with the desired signal," says the engineer.

All of these challenges are mitigated by the 4-20 mA current range. "Current signals naturally withstand EMI better than voltage signals, particularly over long distances. Other control devices can share the current loop as part of the control system," he adds.

Signal conditioning is an essential mechanism for industrial plants to collect information about, and monitor, their processes, and only through precise design can plant engineers ensure reliable incoming data flow. Technical issues like signal attenuation, EMI and process safety are all important to consider, but industry standard ranges for signal current and electrical isolation keep things running smoothly, concludes Loudon.

Enquiries: www.omniflex.com





Sonoff Loadshedder Bundle packs a punch

You are not alone if you are worried about the damage that loadshedding is doing to your electrical system. Sonoff, from electrical giant ITEAD Intelligent Systems, is now available in a Loadshedder Bundle, giving users more peace of mind as Eskom continues to struggle with its power-supply mandate.

What is in the box? Sonoff MiniR3 Pool Smart Timer

This wireless breaker features a maximum 16A load current. It is an open device that connects to your existing home automation system or assistant (such as Amazon Alexa) via Wi-Fi. The smart app works on both Apple iOS and Google Android platforms, allowing you to control your pool's on-off cycle from your phone.

Sonoff POWR320D Geyser Smart Timer

This wireless breaker complies with all local regulations and insurance requirements. It connects to your existing network, and features a bright, crystal-clear LCD screen that displays real-time power, current, voltage and cumulative power readings. You can set geyser on-off times, as well as control your geyser from remote locations should there be an issue. It connects to your phone via iOS or Android smart app.

Sonoff MiniR2 Device

This fits underneath an existing switch and turns the switch into a smart device – you can control power to the switch via smart app, so if you leave your TV on,

for example, you can switch it off remotely without having to go to the physical switch.

Finder Monitoring Relay (Orange)

This multifunctional relay provides flexibility by allowing users to monitor undercurrent, overcurrent and window mode, up to 16A directly. It is easy to install, features positive safety logic, and all functions and values can be adjusted via the selector and trimmer nodes on the device's front face.

Finder Din Base Relay Holder (Blue)

This standard PCB mount relay works with series 40/44, and is DIN mount socket with retaining clip. It accepts plug-in LED, diode, timing modules.

Loadshedder Pilot Light

This mini breaker has one job: Its LED light indicates whether



loadshedding is in progress or if the grid is supplying power.

Communication Cable Identifiers

These mini tags allow users to clearly mark cables so that they are easily identifiable, and electricians do not need to waste time trying to trace the wires.

Wiring Diagram with instructions

Some of the items in the bundle do not require a positive wire, which means they must be wired differently depending on whether your system does or does not have a positive wire present.

Enquiries: www.liteglo.co.za

Standardisation & its importance

Electrical distribution boards (DB), switches and sockets have changed very little in terms of operation over the years. While they vary in colour, shape and design from manufacturer to manufacturer, there is a reason for standardisation and conformity across the industry.

Standardisation & Compatibility

Standardising function and performance is crucial in the electrical industry as it ensures compatibility and safety. The functional design of these products has been standardised to meet the requirements set by electrical organisations in each country via national standard bodies. Changing the design would require revisiting and potentially updating these standards, leading to compatibility issues across the relevant country.

Legacy systems

Many buildings and homes are equipped with existing electrical systems that were installed based on previous standards and designs. Changing the design of these products would necessitate a significant overhaul of existing infrastructure, including completely rewiring buildings. This is a complex, costly process that is often impractical.

Safety & Reliability

The current designs of DB boards, switches and sockets have proven to be safe and reliable. Altering such designs could introduce new challenges in terms of safety, and may require extensive testing and validation to ensure that the new designs meet the necessary safety standards.

Ease of use & Familiarity

The current designs are familiar to electricians, contractors and homeowners. Changing the designs could lead to confusion and potential safety hazards if users are not familiar with the new configurations. The ease of use and widespread familiarity with the existing design contribute to its longevity.

Cost considerations

Overhauling the designs on a large scale would incur significant costs. This includes the cost of redesign, manufacturing, installation and potential modifications to existing electrical systems. As a result, there may be resistance to making changes unless there are substantial benefits.

Incremental improvements

While the fundamental design of these products may appear unchanged, there have been incremental improvements in their relative technologies. These improvements include features like better circuit protection, more efficient designs, and the integration of smart technologies for monitoring and control. However, these advancements often build upon the existing design rather than replacing it entirely.

The importance of surge protection & why you cannot ignore it

Power surges are nothing new – they have been happening long before the arrival of loadshedding and grid power returning unstably when you least expect it. But there is one thing you can do – both at home and in the workplace – to manage surges in the power supply: Installing surge protection devices. This can be in the form of a circuit breaker that is wired into your distribution board (DB) or multiports that feature a surge protector in the plug. Here are a couple of reasons why you should have protection everywhere...

1. Device protection

Surge protection prevents excessive voltage from reaching electronic devices. Electronics, such as computers, TVs, smartphones and even some home appliances are sensitive to voltage fluctuations. Sudden spikes can damage or destroy delicate components, rendering the devices unusable.

2. Longevity of equipment

Electrical appliances and electronic devices are significant investments. Surge protection extends the lifespan of these devices by preventing wear and tear caused by frequent exposure to voltage spikes.

3. Reduced repair & replacement costs

Repairing or replacing damaged electronic equipment can be expensive. Surge protection acts as a cost-effective insurance policy, preventing the need for frequent repairs or replacements due to electrical damage. It costs

much less to replace a surge protection device than electronic goods.

4. Data protection

Surges cannot only damage the hardware but also corrupt or destroy data stored on electronic devices such as computers, tablets and portable harddrives. For businesses and individuals alike, protecting sensitive data from loss or corruption is essential.

5. Fire prevention

In extreme cases, severe voltage spikes can generate enough heat to cause electrical fires. Surge protection helps prevent these catastrophic events, contributing to overall fire safety. The fuse within the protection device will burn out long before a fire can ignite, thereby cutting short the current.

6. Protection against external factors

External factors such as lightning strikes, power grid issues, or sudden power restoration after an outage can cause voltage surges. Surge protectors mitigate the impact of these events on connected devices.

7. Insurance compliance

Nowadays in South Africa, many insurance providers require the installation of surge protection devices to ensure coverage for damages caused by electrical issues. Compliance with such requirements can be crucial for insurance claims. These insurance companies also have brilliant engineers and



electricians who can tell if the device really was plugged in during a surge or if someone is trying to pull a con act.

8. Maintenance of electrical infrastructure

Surge protection helps maintain the integrity of the electrical infrastructure itself. The prevention of surges reduces physical stress on wiring, outlets and other electrical components, contributing to the overall health and reliability of the electrical system.

Surge protection offers great peace of mind as well as financial protection, knowing that your electronic devices are shielded from damaging electricity spikes. This means you can focus on your tasks rather than worrying about switching devices off at the wall every time there is a power outage. Just remember to always check on the devices to make sure they are in proper working order – it is easier to replace a surge protector than a damaged device or equipment.



Congratulations!

Happy Holidays annual giveaway competition winners!

Businesses around the country faced a tough end to the already difficult year that was 2023. So to kickstart 2024 on a happier, better note, Sparks Electrical News offered its readers the chance to win from a selection of amazing prizes, generously sponsored by some of the biggest names and brands in the industry. Once the deadline for entries had closed, the Sparks team visited the prize sponsors to perform the draw. Were you one of the lucky winners?



Gillian Taylor & Pieter Knotze from Crabtree.



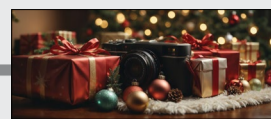
Joley McNaughton from Synerji Electrical.



Voloshnee Pandaram from HellermannTyton.



Margaret Maree from Ledvance.



Alfred Weldon from Radiant Lighting.



Mark Jenkins from Three-D Agencies.



Dale Engelbrecht from Vermont Sales.



Ahmed Baig from Voltex.



Ravi Naidoo from Waco Electrics.



Jannie Dirks & Leanne Cole from Comtest.

HERE ARE THE WINNERS

Comtest

- 2 x Fluke TLK-225 Master Accessory Kit

Winners: Hendrik van Zyl from HVZ Electrical & Akeel Budram from Sonic Electrical Services

Crabtree

- 1 x Hamper including various Crabtree products

Winner: Thomas Butler from JT Electrical

HellermannTyton

- 1 x Hamper including:
 - INSULOK cable ties
 - Insulated screwdriver kit
 - Compact digital multimeter 600V
 - Multipurpose lubricant
 - Red and blue electrical insulation tape
 - Helacons

- Hardcover HellermannTyton notebook
- HellermannTyton gaming mouse pad

Winner: Anthony Schewitz from ECA

Ledvance

- 1 x Hamper including:
 - Volcano Bluetooth speaker
 - Volcano laptop backpack
 - Ledvance Vintage 1906 bubble pendant
 - Ledvance Vintage 1906 single cone spot
 - Ledvance Vintage 1906 double cone spot
 - 2 x Ledvance Vintage 1906 LED globes

Winner: Moosa Peer from Early Light Trading

Radiant

- 1 x 12-piece Electrician's screwdriver set consisting of: 6" long-nose pliers, 6" combination pliers, 6" diagonal cutting pliers, 10" water pump pliers, 4x slotted screwdrivers, 3x cross

- screwdrivers, 200-250v voltage tester

Winner: Kyle Richards from Livewide Electrical

Synerji

- 1 x 3.6 kilowatt Axpert inverter

Winner: Bruce Petzer from Bruce's Electrical

Three-D Agencies

- 2 x UT61B+ Multimeter

Winners: Etienne Venter from Production Logix & Johan Boerman from Boerman Elektries

Vermont Sales

- 1 x Toolbox with a Tork Craft steel-constructed cantilever toolbox with the following features:
 - Chrome vanadium for long life

- Lockable (excluding keys)
- Double handle carry/opening
- Steel construction
- 5-tray storage space

Winner: Andrew Dickson from CBI: electric - Low Voltage

Voltex

- 2 x Kapa Energy Solar Inverter 300W Q300, pure sine wave inverter with output ports USB-A (x3), Type C (x1)

Winners: Ockert Grobler from Skyla Electrical & Warren du Randt from WDR Maintenance

Waco

- 1 x Hamper of selected items to the value of R2 500

Winner: Bertram Blankenberg from BB Electronics

ACTOM implements solar generation system at Knights site

Low- and medium-voltage manufacturer ACTOM has greenlit the installation of its first solar power generation system at its factory at Knights, Germiston on Johannesburg's East Rand. The MV Switchgear section, as the highest power consumer on the site, will be the first to be equipped with the system.

"We will be progressively introducing more power generation systems to the site until all of our factory complexes are being powered through it," says Rhett Kelly, MV Switchgear's Design & Development Manager. "Group factories and work-shops situated elsewhere in Gauteng and around the country will receive the same installations in due course, given the size and complexity of the installations."

The solar power systems being used by ACTOM are grid-tied photovoltaic (PV) solar systems that are designed to generate around 1MW of power, which is approximately the division's power

consumption at peak load and about 50% of the peak load drawn by all the factories at the Knights site.

"We consequently expect the system to reduce the Knights factory facility power consumption from the national grid by up to 50%, which represents a significant cost saving for us," says Kelly. "The reduction in power consumption from the grid can only be roughly estimated, and we are excited to see the results once a more accurate figure has been determined."

Through the installation, MV Switchgear's energy consumption and electricity bill is expected to drop by up to 75%. "This will depend on the weather and the degree of operations carried out during the night hours when the solar system is unable to generate power," Kelly adds. "The system comprises two identical 550kW grid-tied PV solar-powered inverter installations that have been positioned at the major two transformer locations in MV Switchgear's



network, while the solar panels that are installed on the main factory roof."

Each inverter station comprises five 110kW inverters, an inverter collector box and a data management system. "Each inverter system is tied into the low voltage electrical installation of its respective main distribution board. If the power generated at the inverter station exceeds the power

demand at its respective location, any excess power generated is backfed via the transformer into the Knights site 11kV ring network and can be used to supplement the power demands at other locations on the site, thus ensuring that no PV generated power goes unused," concludes Rhett.

Enquiries: www.actom.co.za

Going on an energy diet, the business way

Excluding imports, South Africa's total energy capacity of 54.6 gigawatts (GW) should be sufficient for energy security and spare generating capacity, but it is not. That is clearly evidenced by nearly 15 years of loadshedding, including record-level heights in 2023. "The country is trying to remedy the situation by transitioning away from coal-generated power to renewables and gas – and even nuclear power," says Roger Hislop, an Energy Management Systems Executive at electrical leader CBI :energy. "We cannot just generate our way out of the energy crunch, just like you cannot keep building bigger roads to deal with traffic jams. The only thing that does is kick the tin can further up the road rather than solving the underlying problem." There may be some form of relief, though, says Hislop. "The private sector needs to reduce unnecessary electricity consumption and change what time of the day we consume it. That will help somewhat."

Multinational advisory and consultancy firm PwC released its Africa Energy Review 2023 report, in which it attributes South Africa's energy issues to a lack of maintenance and investment, coupled with outdated infrastructure. Hislop, however, says that there is a deeper issue. "Energy wastage and demand patterns are of massive concern. This is due largely to little awareness about what is being used, why and where, but most importantly, when."

In the electrical industry, the typical energy consumption profile of a business over a workday is known as the Duck Curve. "From the early morning, electricity consumption increases to a peak in the late mid-morning and drops off over lunchtime. It surges to a higher peak in the afternoon, then tapers off sharply into the evening. Most business operations have an after-hours baseload that's around 20% of the daytime average, and that is the problem," says Hislop. "A high proportion of businesses using large amounts of electricity in two largish peaks during the day and little at night should be a cause for concern."

Most people are at work during the day and at home at night. This leads to a stacking effect where the power drawn from the grid is massively uneven. "We run short during the day, and then frantically generate at night to top up the limited energy storage available, hence loadshedding during the day and at night," says Hislop. The PwC report states that sectors which will help drive the energy transition are those that utilise a significant amount of energy such as the 27 companies that form the Energy Intensive Users Group (EIUG), whose goal is to work towards a sustainable energy future. "What if these very large users (and a large percentage of midsize users) can change when they use the most power by restructuring their operations?" he asks.

There is a great need for businesses to proactively minimise energy waste and inefficiencies. This can be done by turning off unnecessary loads when possible and shifting loads to when they put the least strain on supply. "A penny saved is a penny earned. If you do not waste it, you have it to use on something important. Similarly, if companies don't use those kilowatts now, they will have them to use later. It sounds simple – but it is not that easy if you are a business with deeply entrenched requirements about when and how you use your electricity," says the energy management specialist.

It is vital for businesses to get control over their energy usage through managed smart meters with per-minute data, and load controllers to monitor, manage and automate electricity usage. Recently, the City of Ekurhuleni, on Johannesburg's East Rand, requested that large power users curtail their energy usage to take another 30% off an already constrained supply. "To comply, CBI :energy's parent company, CBI-electric: low voltage, embarked on an energy management exercise," says Hislop. "This included the installation of hundreds of managed smart meters and load controllers on machines and other loads to determine



Roger Hislop, an Energy Management Systems Executive at electrical leader CBI :energy.

how much power it is using on a minute-by-minute basis."

This data, once processed, will enable the company to restructure its operations, change which manufacturing processes happen when, and adjust how shift structures work to optimise the manufacturing process to minimise the peaks and dips in daily power usage. "This will also ensure that maximum demand penalties are not incurred, as well as meeting the power constraint that the city is demanding. It is only through the interplay of manufacturing planning data and energy consumption data that this optimisation can be achieved," explains Hislop.

He adds, "Granular per-minute metering at multiple points in the electrical distribution network within a building is critical. Being able to implement a robust, but simple, electrical load management system, where loads can be turned on and off at the click of a button, is more so."

"South Africans, both private citizens and the private sector, need to take charge of our energy destinies and to change our consumption patterns now to ensure energy security for the future. We must change what we do, and how we do it. We must not go 'on a diet' – a famously useless way to lose weight through temporarily skipping treats. We must fundamentally change our lifestyle and the way we work. We cannot generate our way out of energy scarcity – we also need to reduce waste, and more importantly, flatten that duck," concludes Hislop.

Enquiries: www.cbi.energy

Shining a light on the danger of unregulated solar providers

SolarAfrica was recognised as the Best African Solar Company at the African Solar Industry Association awards in 2023. As a leading authority on all things solar, SolarAfrica has the perfect platform to educate and inform consumers, retailers and installers so that they are aware of problems and pitfalls. One of the biggest problem areas currently affecting South Africa is unregulated solar providers, warns David McDonald, co-founder and Chief Executive Officer (CEO) of SolarAfrica.

"Solar photovoltaic (PV) energy is an important part of our country's energy mix and will play an important role in resolving the energy crisis for many," says McDonald. "However, many service providers in the industry are still effectively 'unregulated'. Although prudent developers, EPCs and installers follow the applicable NRS, SANS and IEC standards to ensure the safety and performance of their installations, unregulated service providers do not, and are blissfully unaware of the consequences of their actions."

Power to the people

Werner Fortuin, Head of SolarAfrica's Technical Operations, shares other insights to the dangers posed by unregulated solar installations and what we should be looking for when choosing your provider.

"There has been a surge in the adoption of solar energy from unregulated solar power service providers. To offer support and guidance, the South African Photovoltaic Industry Association (SAPVIA) is one of the organisations that promotes, develops and grows the PV industry in South Africa. SAPVIA offers members access to policy updates, market trends, and advancements in technologies to promote a more regulated quality of installations. SAPVIA already has more than 700 members, and they regularly

The future of South Africa's energy mix

It is no secret that South Africa's energy situation is currently in a state of disaster, and the only long-term and sustainable solution is for the country to move away from the use of fossil fuels. Not only is this essential in addressing the electricity shortages and ever-increasing demand, it is also imperative from a carbon emissions perspective – and every country is currently on the same journey, says Viren Sookhun, Managing Director at Oxyon People Solutions. "However, each country has its own unique climate, population, and needs, and therefore the energy mix will be different. While it is difficult to know for certain what South Africa's energy landscape will look like far into the future, we do know that it will look vastly different to today, and will, if implemented correctly, help to address social issues as well as energy problems, creating a more equitable and sustainable future on multiple fronts.

Sunshine state

Solar power will undeniably play a pivotal role in South Africa's energy future, as it is already actively harnessed by businesses, shopping centres and residential consumers as a way of supplementing lack of availability from the grid. "It will undoubtedly become part of new construction in both the commercial

and residential space, and the more self-sufficient people and businesses can become, the less pressure will be on utility providers," says Sookhun.

Solar is also the focus of various Independent Power Producer (IPP) projects on the horizon, feeding back into the grid to supply electricity. However, the limitation of solar is obvious – it only works optimally during daylight hours and when there is no cloud cover, so it cannot address 100% of the country's energy needs. Battery storage is thus a necessary component of effective solar power generation.

Where the wind blows

While solar is important in South Africa, it is not viable as a solution on its own to address the growing power needs of the country, especially as we progress further in the fourth industrial revolution (4IR). "Hydro-electric power may contribute a small amount, but we do not have many large waterfalls so this will not be a significant solution. Nuclear power will continue to play a role, especially as a back-up solution, and coal will also still have a reduced role, but with greener practices behind it," says the businessman.

"The biggest contributor by far, however, will be green hydrogen and Power-to-X

(including green ammonia), supported by wind energy which in turn powers the electrolyzers to manufacture green hydrogen. While deep ocean turbines are not viable, both offshore and onshore wind will produce enough electricity to address the needs of South Africa in the near- and long-term," adds Sookhun. There are several areas in the country where there is sufficient wind, from off the coast of the Western and Eastern Cape to inland in the Northern Cape. He adds, "While challenges such as grid capacity constraints require attention, and the path ahead involves numerous stages, we must initiate our efforts now to progress toward a more sustainable future."

More than just electricity

While addressing electricity generation is essential, creating the morally just transition the country needs is about a much bigger picture. Fossil fuels will need to be gradually replaced, which includes petrochemicals, impacting vehicles and airplanes, as well as the production of plastic, widely used in the manufacturing of various goods.

"We need to look to produce greener materials and processes, from plant-based plastic alternatives to biomass, green hydrogen and more. We must explore options like carbon capture that will allow us to remove the CO₂ produced by burning fossil fuels from the air and reduce



Viren Sookhun, Managing Director at Oxyon People Solutions.

emissions as we transition. We also need to address the ongoing widespread use of paper, which necessitates the harvesting of trees, as well as energy and other resources for a lot of individuals who currently lack access."

While everyone is hyper-focused on the question of electricity due to the current loadshedding problem, the just transition, and the journey toward net zero are about so much more. Sustainability means more than just eco-friendly power, but addressing the use of fossil fuels is a vital first step in the journey.

Enquiries: www.oxyon.co.za

host working groups to address and solve various industry-related topics. Unfortunately, many service providers still opt out of the voluntary membership," says Fortuin.

In Johannesburg alone, it is estimated that there are more than 20 000 unregistered solar systems. Although many of these are residential installations, many belong to SMMEs. While some may argue that unregulated service providers provide cheaper options for consumers, the hidden dangers they present outweigh any short-term savings. "Compliance with regulation and good quality standards may increase costs, and these costs are quantifiable and can be justified through prudent cost-benefit analysis," explains Fortuin, adding, "however, the cost of non-compliance is not justifiable, and costs related to damage to people, property and equipment can be exponentially higher, and include litigation."

A lack of compliance in the industry poses a significant threat to consumers and the broader solar energy industry. Unlike certified and licensed installers, non-compliant solar providers often lack the necessary training, expertise, and knowledge to design and implement systems safely and efficiently. "Non-compliant installations, subpar equipment, and inadequate maintenance increase the cost significantly. These risks can lead to reduced energy output, higher costs to rectify the installations, and even hazardous conditions that put the safety of employees, as well as property, at risk," warns Fortuin.

One of the most concerning aspects of non-compliant solar service providers is the use of cheap and unreliable components in their installations. By cutting corners to save costs and optimise profits, fly-by-night operators pose a massive risk to their customers



as they cannot ensure the long-term performance and safety of the systems and installations.

"This in turn increases the risk of rejected insurance claims, higher insurance premiums and deductibles, and in some cases the inability to insure your assets," adds the SolarAfrica executive. "This could leave businesses unprotected in the case of accidents or damages resulting from faulty installations. Reputable companies carry full liability insurance that provides essential protection to business owners against any mishaps or property damage that may occur during or after the installation. Without this coverage, businesses may be left with hefty repair bills or face legal battles if issues arise due to poor workmanship."

The solar industry is set to see rapid growth over the next few years and will play a massive part in the South African energy mix. There is no doubt that as it grows it will become heavily regulated, which would be of huge benefit. But until that day, we need to work together – providers, industry associations, government, and consumers – to ensure that the future stays bright. "In the safest way possible," says Fortuin.

Enquiries: www.solarafrica.com

Smith Power Equipment provides custom generators to end loadshedding

Leading generator specialist Smith Power Equipment has a range of engines and power supply units from some of the biggest brands such as Kubota and Cummins. "These products are a favourite with the agricultural sector and the food and hospitality industry where static requirements for equipment such as cold-rooms is critical to business," explains Renier Potgieter, a Power Specialist at Smith Power Equipment. "However, the main area of growth for our business is now shifting over towards generator customisation."

Potgieter says, "When it comes to an investment like a generator, the importance of quality and brand loyalty cannot be over-emphasised. Customers want reliable equipment that operates correctly regardless of the environment and demands placed upon them." These specialised builds are becoming a more common theme, adds the specialist. "This marks a departure, at least for us, from conventional off-the-shelf solutions. Custom configurations are gaining popularity due to their ability to precisely meet users' unique requirements."

Solar generation cannot always take the load being demanded, so having a more reliable power source like a generator makes sense, allowing for a seamless shift from one source to another. "A standalone solar system may not always be sufficient. We want to be in the bigger end of the market where price is not the overriding factor but rather availability and quality,"



says Potgieter. The company builds its customised units locally, ensuring quality control and precision through processes such as laser cutting of parts, precision fitment and balancing of rotating parts, and high-quality tools and craftsmanship. "Smith Power Equipment prides itself on offering a diverse range of generator builds that incorporate some of the most reputable engine brands in the market. Customers can choose from an array of renowned manufacturers, including Kubota and other leading engine brands. These engines serve as the foundation for custom builds that are then meticulously tailored to meet specific agricultural requirements."

He concludes, "We ensure that the selected engines are seamlessly integrated with all the other components, creating purpose-built generator sets that are fit-for-purpose and fully supported by our vast dealer network throughout the country. What sets us apart is our commitment to local manufacturing, with all builds taking place in state-of-the-art facilities within the country."

Enquiries: www.smithpower.co.za

Maximise your electrical efficiency and benefit immediately

Managing electrical usage efficiently contributes to cost saving, as well as promotes sustainability. Here are strategies and tips from electrical distributor ACDC Dynamics that are easy to implement and will make electrical usage more manageable:

1. Conduct an energy audit

This is the perfect starting point. By going through this process and assessing your current energy consumption, you can identify areas where energy is being used inefficiently. This can include outdated appliances, drafty windows, or even inefficient lighting systems.

2. Upgrade to energy-efficient appliances

Consider replacing old and damaged appliances with newer, energy-efficient models that perform to a higher standard. Look for the rating information when purchasing new devices, as these are designed to consume less energy while maintaining performance. This is thanks to new technology and more efficient performing designs.

3. Switch to LED lighting

This is something you have probably started implementing without even realising as LED lights are the new standard. Replace any traditional incandescent lightbulbs

with energy-efficient LED options that consume less energy and have a longer lifespan, which reduces the frequency of replacements.

4. Unplug devices when not in use

Some electronic devices continue to draw power even when they are turned off. Unplug chargers, electronics and appliances when they are not in use, or use smart power strips to easily cut off power to multiple devices at once. This can also be managed via smart devices and switches that can be controlled via smartphone app.

You can also utilise smart home devices such as smart thermostats, smart lighting and smart plugs, to automate and control your home's energy usage. These devices can be programmed to optimise energy consumption based on your preferences and schedule.

5. Regular maintenance

Keep your appliances and HVAC systems well-maintained. This includes regular servicing, cleaning filters, coils and vents to ensure optimal performance – dirty or clogged components can lead to increased energy consumption.

6. Optimise heating & cooling

Properly insulate your home to reduce the need for excessive heating in winter or cooling during summer. Use programmable



heating systems and air conditioning to regulate temperature efficiently, adjusting the units when you are away.

Ensure that your home is well-sealed to prevent drafts. Weatherstrip doors and windows also help minimise heat loss or gain, reducing the workload on your heating and cooling systems.

7. Install a solar system

Consider investing in solar panels and a photovoltaic (PV) system to generate your own electricity. While this may involve an upfront cost, it can lead to long-term savings and reduce your reliance on the grid.

If feasible, consider investing in energy storage solutions such as batteries. This allows you to store excess energy generated during low-demand periods for use during peak times or during outages.

Also buy quality brands and products that will ensure correct operation and performance. Inverter battery systems with adequate storage functionality will also allow for better management of power that has been generated during solar harvesting.

The best way to manage your electrical consumption is to maintain overall control of the system. You need to know every little detail, which then allows you to foster a culture of energy conservation within your household. This includes encouraging family members to turn off lights and appliances when not needed, as well as introducing upgrades and control methods that assist in efficiency.

Enquiries: www.acdc.co.za

Energy sustainability & management can lead to greater business results

According to global tech giant Siemens, beating energy challenges will allow you to transform your building, whether a residential home or corporate environment. "Buildings are responsible for 40% of total energy usage worldwide," says power and energy expert Natalia Marques. "It is critical to decarbonisation that the efficiency of our buildings is significantly improved."

South Africa is still going through challenges when it comes to the generation, storage and supply of electrical reserves, with loadshedding returning to everyday life within hours of ringing in the new year. "These issues make the journey towards energy efficiency and sustainability all the more daunting and difficult," explains Marques. "Partnering with a solutions and technology partner is the first step that you can take towards transforming your future."

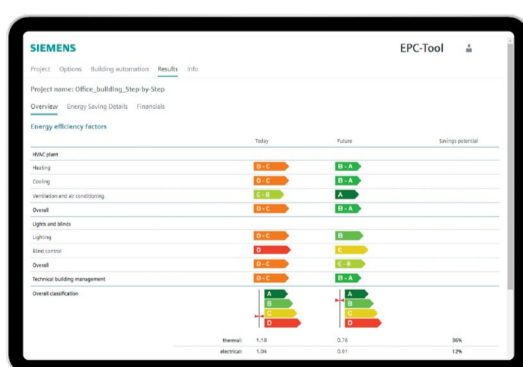
Making use of its educated and trained consultants and technicians, Siemens can optimise energy systems and help users regain control. "This is done via the company's holistic and scalable approach towards improving efficiency. This takes into consideration all systems within the environment and their interoperability. This allows us to maximise performance and increase the savings potential."

Building automation is critical to this process. This alone will allow for a savings potential of 5-30% by unlocking the

energy management potential. "An energy performance classification tool will allow you to analyse your basic system functionality, assess the system's integration and upgradability, and provide an estimation of potential energy savings and payback time," says Marques. "The tools allow you to then monitor the system to ensure correct operation, diagnose potential threats as well as issues, optimise the increased performance, and reach a level of well-managed sustainability."

While Siemens has preconfigured settings and solutions that take general systems into account for various sectors (from data centres and smart hotels, to smart hospitals and historical buildings), the key element of this process is the ability to customise the system to your specific environment. "This allows you to get the perfect solution no matter what your starting point. Our vertical solutions give you a good platform to start your evolution," concludes Marques.

Enquiries: www.siemens.com



WEG Africa applauds energy standards that drive motor efficiency

South Africa is soon to see Minimum Energy Performance Standards (MEPS) applied to low-voltage electric motors, a positive step that will bring with it a range of benefits. Fanie Steyn, Manager Electric Motor Division at WEG Africa, says, "We will see lower energy costs for companies, reduced carbon footprints, and less stress on the national power grid. The introduction of MEPS cannot come sooner."

Steyn emphasises that this step will be important in helping to drive vital corporate and national priorities. "Since 2018, WEG Africa has been involved in assisting in an in-depth study into the likely impacts of MEPS for electric motors in South Africa, and whether it would make sense to regulate these products," he explains. "The results and calculations confirmed that significant energy savings will be made overall."

There are about 200 000 electric motor

units being sold each year in South Africa, with up to 70% being between the 0.75kW and 11kW size range. "Up to half of these have no stated energy rating, which implies that they are the most inefficient motors available. The country's coal-fired energy base – which results in a high emission factor for its electricity of 0.9488 – means that low-efficiency motors add to carbon emissions."

With the application of MEPS, the reduced power consumption will lead to a welcome decrease in greenhouse gas emissions, says Steyn, adding, "There has been a general consensus among stakeholders, who include users and suppliers, that the application of MEPS will be good for everyone and the environment." The process began in the second half of 2023, with the Department of Trade, Industry & Competition announcing its intention to proceed with MEPS, subject to a month-long window

public consultation. It is expected that the standards will be applied and enforced early in 2024.

"This will not affect motors already installed in industry, however it will focus on the import channels," says Steyn. "This will ensure that only motors with a minimum of IE3 – classified by the International Electrotechnical Commission as 'premium efficiency' motors – will be





Keep the lights on during loadshedding with four tips from Eurolux

Lighting leader Eurolux is an expert when it comes to illumination. With loadshedding worsening by the day, here are four must-haves to get you through the darkness in 2024.

Solar outdoor lights

You do not need to get a full solar photovoltaic (PV) system to keep things illuminated. By installing a handful of solar lights around your property and perimeter wall, you can absorb the sun's energy during the day, store them in the fittings' rechargeable batteries, and have outdoor lights at night. "When the sun sets, this energy that has been harvested is used to turn on the fixture and you are provided with some level of illumination for up to three hours," says Eurolux's team. While solar-powered lighting works well with illuminating flower beds and architectural features, there is the added benefit of providing a sense of security. "Intruders look for dark corners to lurk in. If the power goes out while you are asleep or away for the weekend, your home will be shrouded in darkness, making it a prime target. Solar floodlights, whether they are on throughout the night or switch on when movement is detected, are a great deterrent for would-be intruders and give you the peace of mind that your home is well-lit when it needs to be," adds Eurolux.

Rechargeable bulbs

These bulbs have been designed to function when there is no electricity available. "They contain an internal battery that charges up when switched on and there is power supply. As soon as the electricity goes off, the bulb automatically turns on, powered by the now fully charged internal battery," says Eurolux. The types of bulbs should give users up to three hours of illumination, which is usually enough time to cover loadshedding stages, while also having enough time to recharge until the next one.

Rechargeable emergency lights

While these used to be important for campers and hikers, they have become increasingly more popular with regular home users thanks to loadshedding. "Our range of emergency lights and bulbs come in a variety of sizes and shapes. Some are charged by plugging them into a socket when electricity is available while others are solar powered," explains

the lighting manufacturer.

Rechargeable fans

During summer, a cool breeze is a welcome distraction from the rising temperatures. You can even go a step further with a portable rechargeable misting fan. "These fans are lightweight and can be moved around the home as you need it. Simply fill up the built-in water tank and switch it on to enjoy

a fine mist of water and a cool breeze from a powerful fan," says the team. "Eurolux Lighting has a range of fans that are reliable and convenient, as well as rechargeable fans without the misting feature. They are compact and can be charged via supplied USB cable.

Enquiries: www.eurolux.co.za



THE ULTIMATE LOAD-SHEDDING LAMP

FAST
CHARGING



New Eurolux fast-charging lamps have been designed exclusively to endure level 6 load-shedding. Each features a long lasting 3.7V 1.2Ah Lithium-ion battery which will fully charge in under 4 hours.

What's more, you can adjust the brightness level of your lamp to extend your lamp's duration according to how long you need it to last.

- Switch ON once: Bulb shines at **100% brightness and lasts up to 1.5 hrs**
- Switch OFF and ON again: Bulb dims to **50% brightness and lasts up to 3 hrs**
- Switch OFF and ON again: Bulb dims to **25% brightness and lasts up to 7 hrs**

6W | 550 lumens

G1145
DAYLIGHT
OR
G1148
WARM WHITE
B22
BASE

G1146
DAYLIGHT
OR
G1147
WARM WHITE
E27
BASE

permitted into South Africa."

The products that will be affected are three-phase motors with ratings between 0.75kW to 375kW. Steyn says, "Motors destined for hazardous locations – such as gas or petrochemical plants and coal mines – will also be required to comply with these efficiency standards. This includes flameproof motors, which for the first time will have a premium efficiency level."

"WEG Africa has for years championed the benefits of high efficiency motors," Steyn concludes. "We have made our customers aware of the saving on energy costs with an IE3 motor. With South Africa's steadily rising electricity prices, the payback period for these products is as little as nine or ten months."

Enquiries: www.weg.net

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Lighting your way



BEKA Schröder lights up Cape Town's famous Fisherman's Lane

The city of Cape Town has upgraded Muizenberg Fisherman's Lane precinct, which includes the removal of the damaged road and seawall, the provision of a new access road to link the parking areas, and the construction of new recreational facilities. "BEKA Schröder has supplied the solar lighting solution to provide street and pedestrian lighting to improve the safety conditions for fishermen and beach goers," says Grant Kemp a Cape Town-based Sales Engineer for BEKA Schröder.

The SolarPole was selected for this project as no reticulation was required, allowing for saving on installation costs. "The SolarPole is BEKA Schröder's integrated LED solar lighting solution and has been designed and manufactured in South Africa to operate reliably at a high light output over an 11-hour period," says Kemp. He adds, "The SolarPole has

sufficient autonomy to cater for up to three continuous overcast or rainy days and to continue its reliable night operation. The vertical solar panels use a cylindrical module to achieve a better aesthetical design, as well as providing less wind resistance." The SolarPole's long-life lithium energy storage technology offers up to an eight-year battery lifetime.

"The Fisherman's Lane refurbishment project has significantly enhanced the facilities and access routes with substantial improvements," says Cape Town Deputy Mayor, Alderman Eddie Andrews. "I am so encouraged to ensure that this space offers beachgoers the necessary infrastructure to truly enjoy the area and that families will be able to embrace the Fisherman's Lane beachfront."

Enquiries: www.beka-schreder.co.za



Ledvance plans a bright future with environmentally friendly Everloop



The recycling of luminaires is not a simple process, with great care having to be shown with the various components. For that reason, illumination giant Ledvance has come up with a novel approach. "Everloop is not available in South Africa currently," explains Margaret Maree, Marketing & Design Manager at Ledvance South Africa. "But the plan is to introduce it in the near future – it is one of our most exciting products available and would be perfect for South Africa."

What sets Everloop luminaires apart from other illumination products is the ability to upgrade critical components. "Light sources and drivers are usually components that users would struggle to replace in traditional fittings. But with Everloop, they are easily and quickly replaceable, so you do not need to buy entire new luminaires," explains Maree. This maximises the life of the luminaire, saves on resources, and avoids e-waste, which has become a significantly important issue across the globe."

Sustainability was a key point for Ledvance when it updated its brand

identity and corporate position last year, which is why Everloop is such an important product line. "We are focused on 'take, make, reuse' as a philosophy," says Maree. "Sustainability is not a destination, but rather a continuous journey that allows users to adapt behaviour, reduce our carbon footprint, and promote ethical business practices." She adds that the Everloop production and implementation across Europe is estimated to reduce up to 1 million tonnes of carbon emissions annually, which could more than double when Everloop becomes available across the world.

This brings up another selling point: Everloop will save on the all-important budget side of business. "Business has become expensive. You do not want to be replacing entire luminaire systems, which would come at significant cost, when you can replace components. This in effect makes the Everloop luminaire 'everlasting' – and budget friendly," concludes Maree.

Enquiries: www.ledvance.com

ILLUMINATING THE INDUSTRY WITH ANDREA

Nominal vs Effective lumens: The importance of what you get



Opinion piece: Andrea Barausse is the founder and managing director of Durban-based lighting company Energywise Systems. In 2023, he was elected as the technical chair of IESSA – the Illumination Engineering Society of South Africa.

In the lighting industry, the battle between nominal and effective lumens has become an all-too-common discussion. Nominal

lumens are often favoured because they look better on paper, but are they truly reflective of what you will get in real-world scenarios and what you are purchasing?

Let us consider an analogy that involves something every green-blooded Springbok-supporting South African (and I would wager every non-Springbok-supporting South African for that matter too) can wrap their head around: Pouring a beer.

Imagine two scenarios:

Nominal: You quickly pour a cold beer into a hot glass. This results in spillage, poor temperature regulation, excessive foam, and, most importantly to us all, less beer in the glass to enjoy. That is not the ideal situation to be in

Effective: You slowly pour a cold beer into a custom-made, chilled glass. This results in minimal spillage, consistent temperature, a smooth taste, a perfect head and, crucially, you get to savour as close to every drop from the bottle or tin.

The choice is clear, right? Effective lumens are akin to that perfectly poured beer – they offer consistent performance and value for your investment. When it comes to lighting, you want your LED and driver to stay cool, the lumens you paid for to be the lumens that you receive, minimal light spillage, and a long-lasting product that give you satisfaction.

Do not get caught out by the larger numbers offered by nominal lumens. They are not what you are buying, and certainly not what you are getting when you flick your light switch on in your home or office. While nominal lumens may look attractive, it is the effective lumens that truly matter in delivering the performance and longevity you expect from your lighting fixtures.





Get the lowdown on choosing the correct downlights for you home

They are small but punch well above their weight when it comes to lighting solutions. The downlight has come a long way in terms of design and performance, with LED rechargeable bulbs making this fitting even more popular for rooms throughout your house and office. But how do you choose the right downlight and maximise your lighting solution to provide the best performance that meets your needs while also saving on electrical consumption? Illumination specialist Radiant has a handy guide that will make your decisions easier when it comes to selecting downlights...

Room size

The space you are illuminating needs to be accurately measured not just in terms of length and breadth, the ceiling height needs to be factored into your calculations as well. "The general rule of thumb is to install one downlight per every 4m², but this can vary from room to room," says Radiant. Room shape also needs to be taken into consideration – rooms that are not square or rectangular may require additional downlights to illuminate angled areas.

Room purpose & usage

It is important to remember what the room will be used for when designing and implementing an illumination solution. "Is it a task-oriented space, like a kitchen or home office, where you will need the light to illuminate activities such as reading, working or preparing food? Or is it a space to relax and unwind in a cosy ambience?" says Radiant. The former will require more downlights being installed, while the latter will necessitate a more subdued solution.

Best brightness

While downlights should offer sufficient brightness in the room, they should not create glare or cause eye strain. Installing a dimmer switch will allow users to adjust the brightness levels with ease, making it comfortable to be in the room. It is important to make sure that you are buying LEDs that are dimmable to save headaches when trying to return bulbs.

Colour temperature

As with traditional lightbulbs, LED downlights are available in a range of different colour temperatures, from warm white to cool white. "The user needs to choose a downlight with a colour temperature to suit the mood they want to create. Warm white is recommended for rooms where you want softer, relaxed lighting such as the living room, dining room and bedroom. Cool white is better suited for rooms like the kitchen, bathroom and garage," explains the lighting brand.

Ease of installation & integration

It is critical to know everything about your existing system before purchasing and trying to install your downlights, says Radiant. It can happen that certain lightbulbs are not compatible with some systems; in which case you will need to either return your downlights and exchange them for compatible LEDs or

upgrade your system.

Energy efficiency

With the rising cost of electricity in South Africa, coupled with the instability of the national grid, installing energy-efficient lighting solutions has become a priority for citizens. "LED downlights are a great alternative to incandescent options as they use less power and last longer," says Radiant. Rechargeable emergency LEDs are also available – they take, on average, three

hours to charge fully and can provide more than three hours of illumination during loadshedding cycles.

Style

The style of downlight you choose comes down to personal preference. They come in a variety of shapes, sizes and finishes and can be recessed or exposed. This is where your building aesthetics determine your lighting.

Enquiries: www.radiant.co.za





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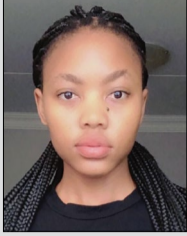




RPR366	RPR367	RPR368
		
LED UFO HIGHBAY 100W 5000K	LED UFO HIGHBAY 150W 5000K	LED UFO HIGHBAY 200W 5000K
Colour Temp: 5000K	Colour Temp: 5000K	Colour Temp: 5000K
Lumens: 12000lm	Lumens: 18000lm	Lumens: 24000lm
Wattage: 100W	Wattage: 150W	Wattage: 200W
Size: 230mm(d) x 33mm(h)	Size: 272mm(d) x 33mm(h)	Size: 314mm(d) x 33mm(h)
Beam Angle: 120°	Beam Angle: 120°	Beam Angle: 120°

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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?

JANUARY SOLUTION

The wife was pregnant and they were racing to the hospital for the birth of the baby. The husband jumped out of the car to get help and a wheelchair. When he returned, his wife had given birth to the baby, but died in childbirth.

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- Tools of the trade
- Energy measurement and supply
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APRIL 2024 FEATURES

- MCCs and motor protection
- Cables and cable accessories
- Lighting

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