

sparks

ELECTRICAL NEWS

DECEMBER 2021

www.sparkselectricalnewsmagazine.co.za

REGULARS: CONTRACTORS' CORNER | BUYERS' GUIDE: DBs, SWITCHES, SOCKETS AND PROTECTION | FEATURES: TOOLS OF THE TRADE | DBs, SWITCHES, SOCKETS AND PROTECTION | LIGHTING

SCAN QR CODE TO ACCESS ENTRY FORM



CLOSING DATE

ENTRIES CLOSE AT END OF BUSINESS ON 14 JANUARY 2022

See what prizes are up for grabs

2021



2022

LOADING

It has been another tough year,
but you can start 2022 on the right
note by winning one of 27 great prizes
from our advertisers

HellermannTyton
www.HellermannTyton.co.za

Thank you for your continued support in 2021...
and may next year bring many rewarding
moments for us to share... [f](#) [i](#) [in](#) [t](#)

Happy Holidays!

CHINT

Empower the World

SIZE DOES MATTER! | CHINT, Asia's Largest Low Voltage Electrical Brand

Why Choose CHINT?

- A reputable manufacturer with a footprint in over 140 countries globally
- Our product range covers Low Voltage, Medium Voltage, High Voltage and Renewable Energy
- We utilize one of the best Quality Control Systems available worldwide
- 5% of annual sales revenue is granted for Research & Development

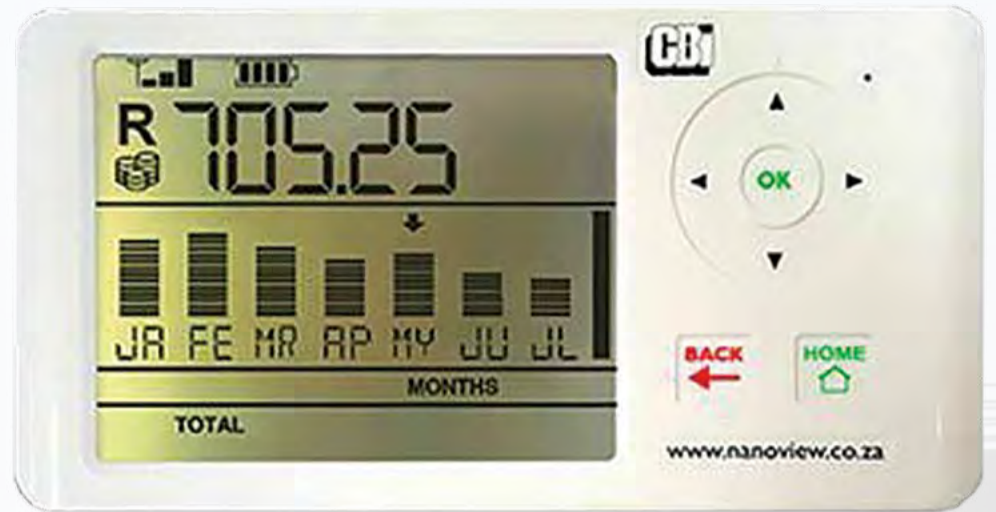


The last two years have been tough ... however, you have the opportunity to start 2022 on a high by winning some amazing prizes from our generous advertisers. Sparks Electrical News and South Africa's leading electrical companies have joined forces to offer readers the chance to win big!

HOW TO ENTER

Entering the competition is simple:

1. Scan the QR code on this page to go straight to the competition entry form.
2. Log onto the Sparks website - www.sparkselectricalnewsmagazine.co.za and click on the competition banner at the top of the page
3. Email your name, company, postal address and contact number to promotions@crowm.co.za



DRAW

All entries received will go into a draw which will be conducted in January 2022. Winners will be notified by email and the names of the winners will be published in the February 2022 issue of Sparks Electrical News.

CLOSING DATE

ENTRIES CLOSE ON 14 JANUARY 2022



R2000
GIFT VOUCHER



WHAT COULD YOU WIN?

Comtest

- 2 x Fluke IKST7 – Fluke insulated hand tools starter kit: This kit combines the most frequently used insulated screwdrivers, pliers and cutters. Keeping insulated tools on hand so you always grab for the tool that will keep you safe
- 2 x Fluke TLK225 – Fluke TLK-225 SureGrip™ Master Accessory Set - The Fluke TLK-225 SureGrip™ Master Accessory Set is the perfect replacement kit that provides flexibility and comfort with all SureGrip™ leads and probes.

Crabtree Electrical

- A R2000 Makro gift card

Empire Electrical Wholesalers

- 5 x CBI electricity meters

Eurolux

- A Eurolux FS269 LED 35W 5000K Work Light

HellermannTyton

- A 20 Piece Electrician's Backpack Tool Kit including an Adjustable Spanner; 38 mm Cable Cutter; 7 Piece 1000V Insulated Screwdriver Set with Neon Voltage

Tester; Junior Hacksaw Blade; Ball Pein Hammer; LED Headlight; Universal Panel Key; 5 m Magnetic Tip Tape Measure; Diagonal Cutter; Combination Plier; Long Nose Plier; Wire Stripper; Vice Grip; and a Manual Retractable Utility Knife.

- In addition to backpack, you will also receive a Multimeter (T235H); 9:1 Infrared thermometer (TIR9PEN); Releasable cable ties; Multi-purpose lubricant; and Insulation Tape.

Ledvance

- A Ledvance 'Brighten your Summer' hamper including Ledvance Floodlights; Osram Lamps (including 1906 Vintage Bulb, Sensor Lamp and LED Classic A); Value LED Sticks; Branded Cooler and Water Bottle; Universal Power Bank Charger; Mousepad; Umbrella; Reusable Straw; and a Cap.

Radiant Lighting

- A Radiant Lighting Laptop Bag

Three-D Agencies

- 3 x UT6TB+ digital multimeters
- 3 x UT6TD+ digital multimeters
- 3 x A12T indoor/outdoor temp indicator

Vermont Sales

- Tork Craft Tradesman Cantilever 88 Piece Toolbox with five Trays

Voltex

- An Electrician's Tool backpack including a Mini Hammer; Mini Saw; Utility Knife; 200mm Spanner; 5m Tape Measure; Cable Shear; 8 * 150mm Screwdriver (1000 V); 6.5* 150mm Screwdriver (1000 V); PH2* 125mm Screwdriver (1000 V); 5* 125mm Screwdriver (1000 V); PH1* 125mm Screwdriver (1000 V); 4* 100mm Screwdriver (1000 V); 3* 75mm Screwdriver (1000 V); Terminal Driver; Screwdriver Tester; 230mm Combination Pliers; 165mm Combination Pliers; Diagonal Cutting Pliers; 165mm Long Nose Pliers; 200mm Long Nose Plier; and Wire Strippers.

Waco

- 2 x CCTV camera kits including 4 x Outdoor Cameras, 1 x DVR, 1 x ITB Hard Drive



eurolux
Lighting your way

HellermannTyton

Tork Craft™
Tools for every job



LEDVANCE





ACDC Dynamics opens new flagship warehouse, distribution centre and retail store in Richmond Park



South Africa has started opening doors to many opportunities with the hope of returning the country to stability, following the effects of the lockdown, specifically with a focus on job creation. According to recent figures by Statistics South Africa, the country's unemployment rate hit a new record high of 34,4% in the second quarter of 2021, from 32,6% in the first quarter.

Being committed to economic growth, ACDC Dynamics recently opened a new flagship branch and retail store in Richmond Park, Cape Town. This is set to create job opportunities for 200 people.

As the company's values centre around customer satisfaction, the launch of its new Richmond Park retail branch will aim to provide the surrounding communities with an effortless shopping experience, providing an extensive range of electrical products, varying from lighting, security, solar, smart and IOT solutions all the way to tools, wiring and accessories. With this new retail store, the company strives to assist the surrounding communities of Richmond Park with all their

electrical needs, aiming to ensure that all its customers can find everything they need under one roof, saving them time and money.

According to Mario Maio, founder of ACDC Dynamics, "We care about prioritising our customers in a manner that promotes both a convenient in-store shopping experience and an uncomplicated, at-home experience with easy-to-use and up-to-date technology. In addition to convenience, our product range is one of our top priorities and we therefore offer an extensive range of electrical and electronic solutions."

In keeping with its commitment to its community, ACDC offers a range of alternative power solutions that ensures the wellbeing of the environment and the people within it. These are just a few examples of the variety of products the company offers.

The new Richmond Park branch will provide all these products and services, making life much easier for all those in need of all ACDC has to offer.

Enquiries: +27 (0)21 492 2000

SAPVIA highlights importance of working with reputable solar PV installers

As increasing numbers of South Africans look to capitalise on renewable energy to reduce their household bills, SAPVIA (South African Photovoltaic Association) is urging consumers that due diligence is required to minimise risk.

Niveshen Govender, COO, SAPVIA, said, "Solar PV offers consumers the chance to take control of their energy supply and substantially reduce their bills. We are delighted that consumers are adopting solar PV and there has been an increase in the number of suppliers offering PV installation across the country."

"However, we are cautioning consumers to undertake the proper due diligence to ensure that they are engaging an accredited installer who will ensure both the quality and safety of their installation. Just as you would with any supplier, you need to scrutinise their qualifications, previous experience, accreditations and of course the quality of the components you are purchasing."

In addition to advocating for a solar PV powered future for South Africa, SAPVIA has taken the lead in the development of a robust accreditation programme that is designed to deliver a quality and sustainable solar PV sector in South Africa. This has been achieved through the PV GreenCard Programme which demonstrates industry experience, specialised training as well as compliance with national standards and municipal regulations.

The PV GreenCard programme doesn't just

support installers, it also gives consumers the confidence to ask the right questions and assure themselves of a high-quality solar PV installation. The installer must provide the system owner with a report that includes a robust checklist of all the necessary installation steps as well as all details of the installation, including details of the PV modules and inverters utilised.

"As consumers turn to solar PV in increasing numbers, SAPVIA through the PV GreenCard Programme is able to offer guidance on the quality and safety of the industry. Our role is to ensure the future viability of the solar PV sector, and this can only be achieved if consumers have confidence that installers are able to deliver quality installations that will allow them to reap the benefits of solar both in the short and long term.

"SAPVIA is working with the Electrical Contractors Association of South Africa and the Department of Employment and Labour to ensure that we develop robust mechanisms to regulate installation standards for the electrical sector in general and more specifically solar PV. Through standardisation and a commitment to developing quality installations, we believe we will be able to offer best practice training, which should not only support the renewables sector but also create much-needed job opportunities in a fast-growing sector."

Enquiries: www.pvgreencard.co.za

Complete solutions for cable glands, junction boxes and accessories



Prately Flameproof Cast Iron Junction Box.



Prately Marketing Director, Eldon Kruger.



The Prately Tufflon compression gland is tough and chemical-resistant.



The world-first, fully-certified Ex de corrosion-resistant Enviro Compression Gland from Prately.

A combination of an intense R&D focus and total in-house control of the manufacturing process has resulted in Prately having over 1 000 products in its stable to date and 350 global patents. Prately's Electrical division distributes hi-tech cable glands, electrical junction boxes and related accessories.

"We supply top solutions to our customers, not only to establish longstanding relationships, but also to ensure we respond to changing market needs. This has resulted in a wealth of brand loyalty over the last 73 years, attributable in part to our policy of outperforming all other competing products on the world market," comments Prately marketing director Eldon Kruger.

Tufflon compression glands

These are made from a tough engineering plastic that is unlike ordinary PVC. It means they are virtually unbreakable and ideal for appliances and instrumentation in a wide range of applications and industries, from sewerage and chemical plants to abattoirs. They maintain an IP seal, are chemical-resistant and will not jump threads when tightened.

Tufflon compression glands from Prately can also be adapted for use with flat twin and earth cables by simply replacing the standard compression bush supplied with a special adaptor bush. They are SABS-approved and comply with SANS 60529 for an IP68 rating. Tough and chemical-resistant, they can tolerate harsh and rugged operating environments.

These non-metallic compression cable glands are manufactured especially from tough engineering plastic, and are therefore not to be confused with ordinary PVC cable glands that can also be prone to 'thread jumping'. The Tufflon compression glands form part of Prately Electrical's extensive electrical cable gland and junction box range for both normal and hazardous locations, and are available in various sizes, in black grey, or white.

Ex d/e corrosion-resistant Enviro compression gland

Prately's new, fully-certified Ex d/e corrosion-resistant Enviro compression gland has zero special conditions of use attendant to its installation, which is a world-first, notes Kruger. Prately claims that there's

almost no place on earth where its new cable gland cannot be installed.

From Group I locations in underground fiery mines, and Ex d flameproof environments, through to the coldest and hottest climates on the planet, the gland has been certified for temperatures from -20°C to 95°C. It's also IP66/68 certified and can withstand an incredible continuous depth of 350 m underwater. That's equivalent to the depth of the North Sea 50 km offshore.

It's made from high-tensile brass components encapsulated in a tough engineering plastic, which means it will not crack when tightening. This, combined with Prately's unique Taper-Tech® internal seal design, ensures safe installation in corrosive environments, without damaging the cable or compromising seal longevity due to cable cold-flow. The cable gland is suitable for installation in equipment Groups I, II, and III, and Zones 1, 2, 20, 21 and 22 hazardous locations. It's also completely oil- and grease-resistant.

Prately flameproof cast iron junction boxes

Prately has been manufacturing flameproof junction boxes since the 1960s. Over the years, it has refined the design of these enclosures, making Prately's cast-iron flameproof junction boxes well-known in the mining and petrochemical industries.

With the recent IECEx approval of these junction boxes, Prately has proven its commitment to world-class product development and innovation. One of these innovations is to offer Prately's unique increased-safety (Ex e) Kwikblok® terminals as a termination option inside the flameproof junction box, essentially doubling the level of protection.

Flameproof junction boxes are specifically designed to house equipment that arcs or sparks, meaning that any termination type can be fitted into these enclosures. However, with the inclusion of increased-safety terminals inside a flameproof enclosure, the terminations rating is pushed up to Zone 0 (two independent levels of protection via EPL Gb, per SANS/IEC 60079-14/26), meaning it can now be installed where there is a constant hazardous environment.

Enquiries: sales@pratley.co.za



How technology can help you as an electrician

The tools of the trade for a modern-day electrician include more than pliers, screwdrivers, wire strippers, and power drills. Today's electrical expert uses technology to help get the job done. If you're new to the profession, take a look at tech options that can make your job easier.

Apps for electricians

Your smartphone holds the key to everything from making calculations to invoicing clients. While apps won't take the place of professional knowledge, these easy-to-use options can help you to:

- **Calculate without fear:** Does mental math make you anxious? Calculation-based apps allow you to figure out voltage, wire sizes, circuit capacity, heat dissipation, and other similar electrical issues as you work.
- **Find parts:** What part do you need and where can you get it? An app can help. This type of app allows you to search for electrical system parts and find them for the best price possible. Some commercial retailers also have apps for easy ordering.
- **Reference knowledge:** Do you remember everything you learned during school/training? If not, a reference-based app can help to refresh your memory when it comes to formulas, wire size, coding, and other information.
- **Invoice clients:** If you're the boss, you need an easy way to create invoices on the fly. Apps can help with your billing and invoicing needs.
- **Find your next job:** A GPS-based or map app can help you to get to your next job quickly. This saves time and makes the customer happy.
- **Create estimates:** Before you bill your client, or accept a job, you need to create an estimate. An app can help you to quickly and easily write digital estimates.

Apps aren't the only tech tool that can help in your professional practice. Read on for more information on devices and other options to consider.

Tablets as tools

- Do you want to save time, money, and paper? Forget about messy carbon copy invoices or notebooks filled with client's address. In

your professional practice a tablet is a device that can:

- **Organise everything:** You'll have everything you need at your fingertips – and in one place. Keep client information, reference guides, billing information, estimates, marketing materials, employee schedules (if you own the company), and other business documents on a tablet.
- **Improve efficiency:** With a data-connected device you won't need to go back and forth between a truck or van to look for parts or call into the office to find out what's in stock. Quickly find everything you need, without making your client wait.
- **Save overhead costs:** The paper you use to create estimates and invoices isn't free. Reduce paper use and save costs with e-versions. This also eliminates the need to use excessive amount of paper when re-writing estimates for one client.

Portability is the best part of a tablet. You won't need to tote a bag filled with bills or boxes of blank estimate sheets along with you. Instead, load these onto your device and go.

Software selections

Now that you've considered the switch from a paper-based professional practice to a device, how do you manage your business on a smartphone or tablet? Along with apps, you'll need a few basic software solutions that apply to the electrical trade.

While some software programs are electrician specific (such as calculation or reference guide software), others are general and can assist with the day-to-day operations. These include:

- **Spreadsheet programmes:** Excel and similar spreadsheet design software allow you to easily create lists, add information, calculate totals, track client statistics, and more.
- **Word processing programmes:** Do you need to create documents for employees, clients, or marketing needs? A basic word processing programme can help.
- **Website builder:** A website can help you to increase business. Simple web-building software allows you to create or maintain a digital presence.

If cost is a concern, professionals can find plenty of free or low-priced options. Look for free trials, free apps, or discounts from professional organizations.



Pratley Taper Tech® Ex d/e Flameproof Enviro Compression Cable Gland

Pratley's Taper Tech® Ex d/e Flameproof Enviro Compression Cable Gland is corrosion resistant and ultra tough with an encapsulated brass inner for unarmoured cable.



SCAN THE QR CODE TO WATCH THE VIDEO

Install PV panels using the Fluke 393 FC 1500 V clamp meter

The Fluke 393 FC CAT III 1500 V True-rms Clamp Meter with iFlex is designed for technicians who work in high voltage dc environment: solar arrays, wind power, electric railways, data centres battery banks for uninterruptible power supplies enables you to work efficiently with dc power measurement, audio polarity and visual continuity.



SCAN THE QR CODE TO WATCH THE VIDEO

Crabtree
 THAT WHICH IS BUILT SOUNDLY ENDURES WELL
All of us wish all of YOU a joyous Festive Season
 THANK YOU FOR BEING SUCH AN IMPORTANT PART OF WHAT WE DO.

For further information: Contact:
 Sales: 0860 SOCKET (762 538) | 011 874 7600 | WhatsApp 0619060326
 Instagram crabtreesouthafrica | info@crabtree.co.za | www.crabtree.co.za

A MEMBER OF **SAFE HOUSE**™
 Suppliers you can trust

photo created by gpointstudio



Zest WEG's installation of MV board minimises downtime



of lost production. The job was conducted after detailed engagement with mine management to arrive at an optimal solution within the operational demands of the plant.

"The project consisted of numerous phases, including the addition of an MV power factor correction (PFC) system," he says. "With the plant planning a number of upgrades, the new state-of-the-art panel provides a safer solution that will accommodate all the required modifications and extensions going forward."

The order included the supply of a battery tripping unit (BTU), a cabinet for tools and equipment, and a new distribution board, as well as the completion of internal control cabling. Zest WEG also supplied, installed and commissioned a fire suppression system inside the MV substation and PFC room.

"Another element of our solution was to give the customer enhanced monitoring capacity, by fitting the incoming panel with a power quality meter with GPS and GPRS capability," says Richards. "This allows for the off-site monitoring and recording of power quality and energy consumption, so they can pick up any spikes in the grid supply that might expose the plant to damage in the long term and determine the cause of power outages."

Enquiries: www.zestweg.com

ESG certified as Level 2 contributor to B-BBEE

Invicta Holdings Limited's Engineering Solutions Group (ESG) – distributors of engineering consumables, automotive components, technical services and related solutions – has achieved recognition as a Level 2 contributor to Broad-Based Black Economic Empowerment (B-BBEE).

"ESG's B-BBEE strategy has had a powerful impact on the expansion and improvement of business operations and we believe our new status will be a sound springboard for future growth of group companies," says Ruth Black, Group Human Resources Executive, ESG. "This evaluation involves the company's compliance to empowerment factors identified by the DTI, which include ownership, management and control, skills development, enterprise and supplier development, as well as socio-economic development."

"ESG is committed to an integrated B-BBEE strategy, continually seeking ways to improve all aspects of the scorecard and strategically linking socio-economic investments to skills development and progressive employment equity, to ensure sustainable business performance."

"Our latest verification certificate and newly accredited Level 2 status means ESG customers can claim B-BBEE pro-

urement recognition of 125% against all purchases."

The company believes in sustainable development and instils in its team a responsibility for health, safety and the environment, as well as empowering local communities. Skills training is also important at ESG and forms a critical part of the group's investment in staff upliftment.

ESG has expanded its operation significantly and now incorporates BMG (Africa's industrial leader in engineering consumables and services); INDUSTRI Tools & Equipment; Screen Doctor (vibrating equipment and material handling solutions); OST-Africa (vibrator motors, tensioners and suspension systems); Rustenburg Engineers & Foundry (major players in the foundry industry), and Abrasive Flow Solutions (AFS – specialists in the design and manufacture of slurry related valves).

Group companies also comprise Universal Parts Group (ESG's reach into the automotive after-market), incorporating Autobax and Driveshaft Parts; Belt Brokers (manufacturers and suppliers of quality conveyor components), and ESG Exports (which exports group products into Africa and globally).

Enquiries: +27 (0)11 620 1646

Major Tech expands to Australia

Major Tech is a well-known and respected South African brand in the electrical industry, supplying hand-held test instruments for every application to measure, record or fault find. Established in 1992, with a vision and mission of being the brand of choice by consistently pushing the benchmark with innovative, high quality product developments, and unparalleled service, the company is now embarking on an exciting new venture – branching out to Australia.

"We have been exporting to a distributor in Australia for over twenty years," explains Major Tech Chief Executive Officer, Pat Shaw, "Yet we always wanted to grow our presence there. As fate would have it, when COVID-19 hit, my son, Gary, and his Australian girlfriend were stuck with us in South Africa for nine months." The expansion to Australia came up in conversation, and the perfect opportunity arose.

Located in the suburb of Brendale in Brisbane, Major Tech's 500m² warehouse started receiving stock in June and the company began trading on October 1st. "We began without a customer base," says Shaw. "People did know a little about us – we previously exported around 10 products, mainly entry level – but we have launched with a 120-page catalogue and have already signed up some major distributor groups."

Currently the company is focused on selling its test and measurement instruments as well as hand tools, but Shaw admits that there is a possibility to send over more of their ranges in the future.

"Australia and South Africa are very similar markets," he says, "And the wholesalers are very friendly with no hidden agendas. One difference is that the Australian market is not as price sensitive as we are locally, and it often comes down to supply, hence the reason we have ensured a large amount of stock holding of all products in the new Australian office. It is a service driven market – if you look after them, they will look after you." Major Tech is currently in the process of employing salespeople, and is aiming to have a full sales force up and running in January with a sales person in each main territory.

Change of colour

When Major Tech decided to open up in Australia, another company already had a patent for the yellow and grey colours to be used on instruments over there. "This provided an opportunity to refresh our brand identity," explains Marketing Manager, Leigh Shaw. "We have changed our colours to blue and light grey, and this will be seen in South Africa when our 2022 catalogue is released."



The MT1887 – an example of Major Tech's new-look products.

At the same time, the company decided to revamp its packaging across the entire range, along with rewriting all manuals. The result is easy-to-read packaging which not only highlights the product benefits, but also provides customers with the specs and features at a glance. Furthermore, all the company's professional multimeters have been upgraded to True RMS, and most now feature Bluetooth. The ever-popular models MT1885 and MT1887 have been designed to measure up to 1500 V DC to meet the solar industry's requirements.

Despite the challenges facing the country – and the world – the past two years have been exciting ones for Major Tech, and with the company celebrating its 30th anniversary in 2022, there are no signs of slowing down. "The aim is to make Major Tech a household name in Australia by using the same formula we have been using locally for almost three decades; a high quality product at a reasonable price," Shaw concludes.

Enquiries: www.major-tech.com

WORKING KNOWLEDGE WITH TERRY MACKENZIE HOY

PTs, VTs and CTs

Power transformers are known as 'PTs' in the trade and 'VT' and 'CT' stand for 'voltage transformer' and 'current transformer'. PTs are the transformers used to supply power to a load, and this article is not about them ... they are familiar and well known.

VTs are used to drive metering and instrumentation when it is not possible to connect the tariff meter directly to the supply for reason of insulation requirements. Thus, if the supply voltage is anything above 550 V, a VT is required. The VT must be a fairly accurate device. The voltage it presents to the tariff meter must be an accurate fraction of the main supply voltage and the phase angle difference between the VT phases and the corresponding phases of the main supply must be kept low, or alternatively an adjustment must be made to the tariff meter. The voltage on a power system fluctuates, and consequently, a voltage transformer must give an accurate output in proportion to the main supply voltage over a range of at least 80% to 110 % of rated voltage.

In general, the rated voltage of a VT is 110 V (secondary) with the primary voltage to match the main supply voltage. VTs are generally accurate to 0.3%. Most VTs have a star primary and always have a star secondary. The secondary must be earthed. In this country, the neutral of the secondary is not brought to terminals and the white phase is earthed instead. The VT is protected by fuses; in 11 000 V systems the primary fuses are in the transformer bushing which must be unscrewed to replace the fuse. Secondary fuses are mounted on the transformer casing and are always HRC fuses, capable of operating very quickly and limiting fault currents. For this last reason it is unwise to use circuit breakers for secondary protection.

Very occasionally the primary winding of a VT will resonate with the capacitance to earth if the main circuit breaker is supplying an overhead powerline. This is called 'ferro resonance'. The fuses will not save the VT and it will fail. Typically, if exam-

ination of a voltage transformer which has failed shows only the primary winding uniformly cooked from end-to-end, ferro resonance can be suspected.

Current transformers convert the current flowing in the main supply to a small current in proportion to the main current. This current is fed to the tariff meter (in the case of CTs used for tariff metering) or to the protection relay (in the case of CTs used for over current and earth fault protection). The two types of current transformer, normally referred to as 'metering/instrument' or 'protection' current transformers, have very different accuracy requirements. The metering/instrument CTs must be pretty accurate or the tariff metering will be incorrect. The tariff metering CTs are available in classes from 0.1, 0.2, 0.3, 0.4 and 0.5, on a scale of decreasing accuracy.

The primary rating of the CT in amps is the expected maximum current of the current through the primary circuit breaker. The secondary is 5 amps or 1 amp. In RSA, 5 amps is most commonly used. For a protection current transformer, the accuracy is not as important as the fact that the current transformer output should not vary much when a fault current flows through the main circuit breaker. Thus, the current transformer rating is given as two numbers with a 'P' in between. By illustration, with 10P10 as an example, when the current flowing through the current transformer is less than 10 times its rated current, the error of the output is less than 10%. Other ratings would be 5P10 or 5P5 (not common).

There is one golden rule with current transformers: when a current transformer is in circuit and live, never let it go open circuit. If this happens the current transformer will generate very high secondary voltages and will (at best) fail or (at worst) blow up. Do remember this. This column is an introduction to the subject of VTs and CTs. It so happens that they are way more complicated than they seem, so do read up if you want to know more.



Ptytrade 228 (Pty) Ltd better placed to service customers as it consolidates operations under one roof

Ptytrade 228 (Pty) Ltd is more than an electrical wholesaler offering high-quality electrical products to the industry. The company has recently consolidated all its operation under one roof, ensuring an even better service experience for its customers.

With its admin, stores and workshop previously housed in three separate premises, the consolidation of Ptytrade 228, Switchgear Unlimited and Flameproof Manufacturing at its new 2400m² facility, just 3 km away at 83-87 First Street in Boksburg North, ensures many benefits for customers. "As digital as the world is today, having the divisions in separate locations just didn't work. Added to that was the fact that we were running out of space. The move has added a further 1200m² of space and having our panel building division and stores connected is already proving beneficial," says owner Brendon Chalmers. "I actually looked at this property two years ago and thought it was too big, however, we are already utilising the majority of the space."

With the company's panel building and switch-

gear divisions showing substantial growth, space requirements and an ever-increasing stockholding are necessary; however, it is the synergies between all parts of the business which are already paying off, including a quicker turnaround time. "I now have a much tighter control of what is happening," explains Chalmers. "I encourage my staff to do what they are good at - selling - and I am now able to assist with potential problems timeously. I am a stone's throw away from dispatch and the workshop should they need me."

As an independent, family-run business with over 30 years' experience collectively, Ptytrade 228 combines flexibility, expertise, and associated product knowledge to provide the best possible solutions to its clients. In this energy intensive era, the installation, on-site modification, operation, and maintenance of electrical power and distribution assets are critically important. By minimising downtime, and supplying quality products at competitive prices, the company helps to increase its customer's bottom line. "Our aim is to provide you with quality electri-



Ptytrade 228's Brendon Chalmers in the new warehousing component.



Switchgear Unlimited's workshop.

cal components and panels. We source our electrical items both locally and internationally and are supported by some of the world's biggest brands. Our range of electrical products increases daily and with the assistance of our in-house experts we will find a solution that fits your needs and budgetary requirements," notes Chalmers.

The company, which recently celebrated its 17th birthday, has a loyal array of customers who trust in what it does, and trust that its pricing is competitive. "It's a relationship," says Chalm-

ers. "A lot of our success has been due to our people, but also our customers, and that is what has allowed us to evolve and grow. We have not reinvented anything; we simply focus on doing the best we can and providing the best service. I would like to say thank you to all of our amazing customers for making this amazing journey possible and we look forward to seeing you soon."

Enquiries: +27 (0)11 918 7810

Five ways tech is revolutionising home automation

Home automation is on the rise across the globe and South Africa is swiftly following suit. "The world has embraced the Fourth Industrial Revolution, which has changed the way people manage their daily lives," explains Charl Osborne, Organisational Head at CBI-electric: low voltage, a local manufacturer of quality low voltage electrical distribution, protection and control equipment.

Noticing a gap to assist South Africans to manage their electricity from anywhere and anytime, the company introduced the Astute Range which features locally manufactured products such as the Astute smart controller, isolator and smart plugs - all managed via the CBI Home App. Today, IoT products are putting the power back in South Africa's hands. Here are five ways smart devices are revolutionising home automation:

1. Improve energy efficiency

In the past, South Africans have had relatively lit-

tle control over their electricity usage, aside from choosing energy-efficient appliances. Now they can proactively manage their demand and easily schedule their peak power use while also reducing their impact on the environment. Now locals can reduce their electricity load during peak hours from the palm of their hands which will assist in alleviating the national grid.

This can be done via a 'set and forget' option with schedules controlled with a smartphone or tablet. Scheduling can be set for different days of the week, with automation according to time, weather conditions, and more. Electricity usage is displayed in daily graphs and monthly usage on the app.

2. Minimise costs

As energy prices increase, South Africans are feeling stretched with their budgets. The cost of electricity has doubled in the past decade with another 15.06% increase expected in 2022. For maximum energy sav-

ings, smart devices can control when power-intensive appliances are run - such as air conditioners, geysers and heaters - so that consumers benefit from the comfort they offer while minimising costs. Additionally, appliances that are not in use but still plugged in the wall can still use electricity costing South Africans unnecessary money. With smart devices users can turn these products off from the palm of their hands to ensure they aren't wasting money on electricity that isn't being used.

3. Convenience

Smart devices offer greater convenience. The CBI Home App allows consumers to control when devices are powered, with settings including weather and time of day. An air conditioner can be remotely turned off when no one is home, or only set to run during warmer conditions. Subsequently, consumers can also use smart devices to automate their homes or turn geysers off while on holiday.

4. Set safety measures

Many people can relate with the anxiety of wondering whether they've turned off fire-hazards such as heaters, irons and electric blankets when they've left the house. Now they can use the app to see whether these appliances are still switched on and effectively turn them off at the wall if-and-when necessary.

5. Customised requirements

The Astute devices allow for multiple on and off programs and have manual by-pass capabilities with maximum control. As the products work with already-installed electrical infrastructure, the Astute Range provides an affordable and practical solution. However, the products allow people to decide which product to install first according to their needs with no added costs above that of the device installed. For example, if they want to tackle the heaviest electricity usage first.

Enquiries: www.cbi-lowvoltage.com/astute

Celebrating 10 years of solar savings

The 10th of November marked SolarAfrica's ten-year celebration in the solar industry. Not only does the company get to celebrate the success of its business, but it gets to celebrate the significant relationships that the company have built with its customers, suppliers and partners, alongside the dynamic team who have made it all possible.

Starting out as a two-man band in Port Louis, Mauritius, James Irons and David McDonald co-founded the company, then known as NVI Energy. With a vision to become the leading solar energy enabler, the founders celebrated its first small office in a town called Calebasses, where they welcomed their first staff member who still works for the company today, Preeti Ragoobar. After the successful installation of Kenya's first solar PPA, the company rebranded to SolarAfrica and launched its new logo and slogan: The Better Energy Choice.

By early 2016, the team had grown to 13 staff members, moved to a new office in Mauritius and launched another office in Centurion, South Africa where its solar PPA solution was truly brought to life. After launching its residential solar solution for complexes and retirement homes, its vision of saving customers money with

a Capex-free solar energy solution gained much acclaim. Charl Alheit soon joined the team as Chief Investment Officer, playing an instrumental role in fundraising fueling the company's growth.

Winning a prestigious Frost & Sullivan Award in 2016, really set things in motion and propelled the team to wanting more. In 2017, SolarAfrica went on to deliver East Africa's largest industrial solar system, Krystalline Salt Limited, and funded the largest battery system in Africa which also happened to be the first Tesla Power Pack installed in Africa.

SolarAfrica continued to grow year on year, from strength to strength, providing simple sustainable savings to its customers and by 2019, the team had delivered and financed over 80 projects across five different countries. The ambitious trend continued the following year where it signed and constructed one of the largest solar carports in the world for Ford Motor Company.

As SolarAfrica reaches the ten-year mark and celebrates ten great years of solar savings, the passion and pride for what they do still resonates among each and every team member. The company are gearing up to achieve even more over the next ten years and

commit to continue walking this sustainable green journey in partnership with businesses throughout South Africa.

Enquiries: www.solarafrica.com

**Smart.
Small.
Unique.**

Intelligent Surge Protection

- Health monitoring with status indication
- Compact 6.2 mm width for reduced installation space
- Plug-in modules for live maintenance and loop isolation

www.pepperl-fuchs.com/surge-M-LB-5000

Your automation, our passion.

PEPPERL+FUCHS

MANUFACTURERS

ABB South Africa
Aurora Lighting Africa
Ausma
BEKA Schröder
Caco Trading
Eaton Electric
Electroweb
HellermannTyton
Genlux Lighting
Krilux
Ledvance
Legrand
Marechal Electric Africa
Matelec
Nordland Lighting
Shuttle Lighting
Spazio Lighting
Superlume
Visionware

DISTRIBUTORS

ACDC Dynamics
Aberdare Cables
ACTOM Electrical Products
ARB Electrical Wholesalers
Atlas Group
Aurora Lighting
Ausma
BEKA Schröder
Bellco
Citilec
Crabtree South Africa
Denver Technical Products
Eaton Electric
Electrahertz
ElectroMechanica
Electroweb
Eurolux
Genlux Lighting
HellermannTyton
Khanyisa
K. Light
Lamps Electrical Distributor
LS Lighting Structures
Lumax Lighting
Major Tech
Matelec
MCE Electric
Megalight Electrical
Power Panels and Electrical
Radiant Lighting
Spazio Lighting
Superlume
Unique Lighting
Voltex
Voltex Lighting
Voltex Smart Solutions
Waco

CONTACTS

ABB South Africa
Claudien Forbes
Aberdare Cables
Jyoshtie Dhunes
ACDC Dynamics
Elmari Erasmus/Dirk Klynsmith
ACTOM Electrical Products
Millicent Mabote
ARB Electrical Wholesalers
Sales
Atlas Group
Annie Storer/Imran Gaffoor
Aurora Lighting Africa
Olivia Tait
Ausma
Ares
BEKA Schröder
Grant Combrink
Bellco
Shiraj Wentzel
Caco Trading
Christopher Hinckley
Citilec
Geoffrey Bower
Crabtree South Africa
Sales
Denver Technical Products
Mervyn Stocks
Eaton Electric
Marlene Coetzee
Eurolux
Sales
Electrahertz
Frank Proude (Pta) Peet Lourens (Jhb)
ElectraMechanica
Vinson Moore
Electroweb
Deon van Vuuren
Genlux Lighting
Glen Hill
HellermannTyton
Ingrid Nicolaus
Khanyisa
Dominic Kalil
K. Light
Eli Kalmi
Krilux
Krisem
Lamps Electrical Distributor
Shaun
Ledvance
Ledvance Head office
Legrand
Johan Bosch
LS Lighting Structures
Juanita Kanagan
Lumax Lighting
Sales
Major Tech
Werner Grobbelaar
Marechal Electric Africa
Sales
Matelec
Yann Leclézio
MCE Electric
Sales
Megalight Electrical
Sales
Nordland Lighting
Johann Lamprecht

CONTACTS

Power Panels and Electrical
Freddie
Radiant Lighting
Alfred Weldon
Shuttle Lighting
Tracey Smith
Spazio Lighting
Sales
Superlume
Willie Garbers
Unique Lighting
Michael Smith
Visionware
Werner Benade
Voltex
Hugh Ward
Voltex Lighting
Mark Storer/Mark Rudman
Voltex Smart Solutions
Juanita Kanagan
Waco
Jaco Coetzee

INDOOR DECORATIVE LIGHTING

ACDC Dynamics
Full range of indoor decorative lighting: LED, LED glare-reducing and standard CFL options – downlights, chandeliers, wall mounts, spotlights, LED strip lights, wall washer LEDs, stainless steel light fittings
ACTOM Electrical Products
Distributors of Rabro brand imported and local manufactured product
ARB Electrical Wholesalers
Full range of indoor decorative lighting
Atlas Group
Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED
Aurora Lighting Africa
Aurora Lighting and Enlite Lighting indoor decorative lighting
Ausma
Full range of indoor decorative lighting
BEKA Schröder
Full range of indoor decorative lighting luminaires
Bellco
Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED
Caco Trading
Full range of indoor decorative lighting
Citilec
Full range of indoor decorative lighting
Crabtree South Africa
Acrylic diffuser with conical light control prisms (single; double – new Econo narrow body; and wide body decorative)
Electrahertz
Full range of indoor decorative lighting
Electroweb
Full range of indoor decorative lighting
Eurolux
Full range of indoor decorative lighting
Genlux Lighting
Full range of indoor decorative lighting
HellermannTyton
Straight-through and branch gel cable joints with connectors (Relight and Relifix) and two-component gel (Religel)
Khanyisa
Full range of indoor decorative lighting
K. Light
Full range of indoor decorative lighting
Krilux
Full range of indoor decorative lighting
Lamps Electrical Distributor
Full range of indoor decorative lighting
Ledvance
Full range of indoor decorative lighting
Lumax Lighting
Full range of indoor decorative lighting
Major Tech
Full range of LED wall lights, picture and mirror lights, step lights and ceiling lights ideal for office, home, hotels and general lighting applications
MCE Electric
O-lite LED candle bulbs, globes and lamps; O-Lite LED Cyclops panel lights; O-Lite LED downlights with built-in drivers
Megalight Electrical
Full range of indoor decorative lighting
Power Panels and Electrical
Full range of indoor decorative lighting
Radiant Lighting
Full range of indoor decorative lighting
Shuttle Lighting
Full range of indoor decorative lighting
Spazio Lighting
Full range of indoor decorative lighting
Superlume
A new Ekor Decorative Indoor lighting range and new Bathroom lighting range.
Unique Lighting
Full range of indoor decorative lighting
Visionware
Full range of indoor decorative lighting
Voltex
Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED
Voltex Lighting
Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED
Waco
Distributor of a wide variety of reputable brands, designs and specifications, for example, energy saving and LED

OUTDOOR DECORATIVE LIGHTING

ACDC Dynamics
Wide range of outdoor decorative lighting: bulkheads, wall mounts, deck and floor lighting, floodlights, lanterns, garden lights, solar garden lights, security lights, decorative bollards
ACTOM Electrical Products
Distributors of Genlux brand imported and local manufactured product
ARB Electrical Wholesalers
Full range of outdoor decorative lighting
Atlas Group
Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED
Aurora Lighting Africa
Full range of outdoor decorative lighting
Ausma
Full range of outdoor decorative lighting
BEKA Schröder
Full range of outdoor decorative lighting
Bellco
Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED
Caco Trading
Full range of outdoor decorative lighting
Citilec
Full range of outdoor decorative lighting
Crabtree South Africa
Totally enclosed, high impact, corrosion resistant fluorescent luminaires
Electrahertz
Full range of outdoor decorative lighting
Electroweb
Full range of outdoor decorative lighting

OUTDOOR DECORATIVE LIGHTING

Eurolux
Full range of outdoor decorative lighting
Genlux Lighting
Outdoor lights; bulkheads; flood and security lights; solar lights
HellermannTyton
Straight-through and branch gel cable joints with connectors (Relight and Relifix) and two-component gel (Religel)
Khanyisa
Full range of outdoor decorative lighting
K. Light
Full range of outdoor decorative lighting
Krilux
PAR38 LED colour lamps available (red, blue, green, yellow)
Lamps Electrical Distributor
Full range of outdoor decorative lighting
Ledvance
Full range of outdoor decorative lighting
Legrand
Weatherproof and vandal resistant bulkhead lights
Major Tech
Full range of LED garden lights, wall lights ideal for office, home and hotels
Matelec
Centurion Bulkheads (LED, CFL); Mirage Bulkheads (LED, CFL); PAR 38 (single and double)
MCE Electric
O-lite outdoor LED aluminium fittings; O-lite outdoor E27 aluminium fittings; O-lite outdoor recessed step light; O-Lite bulkhead fittings
Megalight Electrical
Full range of outdoor decorative lighting
Nordland Lighting
Full range of outdoor decorative lighting
Power Panels and Electrical
Full range of outdoor decorative lighting
Radiant Lighting
Full range of outdoor decorative lighting
Spazio Lighting
Full range of outdoor decorative lighting
Superlume
A wide range of decorative outdoor lighting.
Unique Lighting
Full range of outdoor decorative lighting
Visionware
Full range of outdoor decorative lighting
Voltex
Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED
Voltex Lighting
Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED
Waco
Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED

EMERGENCY LIGHTING

ABB South Africa
Full range of emergency lighting
ACDC Dynamics
Full range of emergency lighting: wall mount, double-sided, legends, bulkhead and Eco Lights ranging from IP42 to IP65
ARB Electrical Wholesalers
Full range of emergency lighting
Atlas Group
Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act
Aurora Lighting Africa
Full range of emergency lighting
Ausma
Full range of emergency lighting
BEKA Schröder
Full range of emergency lighting
Bellco
Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act
Citilec
Full range of emergency lighting
Electrahertz
Full range of emergency lighting
Electroweb
Full range of emergency lighting
Eurolux
Full range of emergency lighting
Genlux Lighting
Full range of emergency lighting
HellermannTyton
Adjustable LED Torch LED (HEADLIGHTPRO)
Khanyisa
Full range of emergency lighting
Legrand
Full range of emergency lighting units ranging from fluorescent to LED including maintained and non-maintained
Major Tech
Full range of portable lighting – in LED and fluorescent – ideal for power outages, camping, fishing, hiking, hotel, office and warehouse applications
Megalight Electrical
Full range of emergency lighting
Nordland Lighting
Full range of emergency lighting
Power Panels and Electrical
Full range of emergency lighting
Radiant Lighting
Full range of emergency lighting
Spazio Lighting
Full range of emergency lighting
Superlume
A wide range of emergency lighting
Unique Lighting
Full range of emergency lighting
Visionware
Full range of emergency lighting
Voltex
Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act
Voltex Lighting
Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act
Waco
Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act

FLAMEPROOF/HAZARDOUS AREA LIGHTING

ACDC Dynamics
Full range of flameproof/hazardous area lighting: visual alarms and beacons
ARB Electrical Wholesalers
Full range of flameproof/hazardous area lighting
Atlas Group
Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor
Aurora Lighting Africa
Full range of flameproof/hazardous area lighting
BEKA Schröder
Full range of flameproof/hazardous area lighting
Bellco
Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor

FLAMEPROOF/HAZARDOUS AREA LIGHTING

Citilec
Full range of flameproof/hazardous area lighting
Eaton Electric
Full range of flameproof/hazardous area lighting
Electrahertz
Full range of flameproof/hazardous area lighting
Eurolux
Limited range of flameproof/hazardous area lighting
Genlux Lighting
Full range of flameproof/hazardous area lighting
Khanyisa
Full range of flameproof/hazardous area lighting
Lamps Electrical Distributor
Full range of flameproof/hazardous area lighting
Marechal Electric Africa
TECHNOR ITALSMEA: Full Range of Ex/ Atex: Fluorescent, LED, Wellglass and Floodlights
Matelec
Norland agent for Western Cape
MCE Electric
O-lite LED floodlights
Megalight Electrical
Full range of floodlights
Nordland Lighting
Full range of flameproof/hazardous area lighting
Power Panels and Electrical
Full range of flameproof/hazardous area lighting
Superlume
A wide range of zone rated lighting fixtures
Unique Lighting
Full range of flameproof/hazardous area lighting
Visionware
Full range of flameproof/hazardous area lighting
Voltex
Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor
Voltex Lighting
Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor

ENTERTAINMENT LIGHTING

ACDC Dynamics
Full range of entertainment lighting: flexible and rigid LED strip lighting, LED bar lights (IP65), LED border lights (IP65), disco lights, stage flood lights, lasers and mini laser lights, colour changing LED strip lights, high power LED lights and various Christmas/festive lighting
ACTOM Electrical Products
Distributors of Opplé and OSRAM brand entertainment lighting
ARB Electrical Wholesalers
Full range of entertainment lighting
Atlas Group
Available on request, e.g. spotlights, follow spots and strobe lights
Aurora Lighting Africa
Aurora Lighting and Enlite Lighting entertainment lighting
Bellco
Available on request, e.g. spotlights, follow spots and strobe lights
Electrahertz
Full range of entertainment lighting
Eurolux
Full range of entertainment lighting
Genlux Lighting
Full range of entertainment lighting
HellermannTyton
Straight-through and branch gel cable joints with connectors (Relight and Relifix) and two-component gel (Religel)
Khanyisa
Full range of entertainment lighting
MCE Electric
O-lite LED strip and rope lights; O-lite LED plinth, cabinet and reading lights
Megalight Electrical
Full range of entertainment lighting
Power Panels and Electrical
Full range of entertainment lighting
Radiant Lighting
Full range of entertainment lighting
Shuttle Lighting
Full range of entertainment lighting
Voltex
Available on request, e.g. spotlights, follow spots and strobe lights

STREET LIGHTING

ACDC Dynamics
Full range of street lighting: solar lights, LED lights, traffic lights, high power LED street lights (IP65), high power single LED chip lights in die-cast aluminium and Technopolymer
ACTOM Electrical Products
Distributors Genlux brand imported and local manufactured product
ARB Electrical Wholesalers
Full range of street lighting luminaires
Atlas Group
Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear, energy efficient and LED
BEKA Schröder
Full range of street lighting luminaires
Bellco
Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear, energy efficient and LED
Citilec
Full range of street lighting
Eaton Electric
Full range of street lighting
Electrahertz
Full range of street lighting
Electroweb
Full range of street lighting
Eurolux
Limited range of street lighting
Genlux Lighting
Full range of street lighting
Khanyisa
Full range of street lighting
Krilux
Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)
LS Lighting Structures
Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear, energy efficient and LED
Lumax Lighting
Full range of street lighting luminaires
Matelec
Nema Photocell
Megalight Electrical
Full range of street lighting
Nordland Lighting
Full range of street lighting
Power Panels and Electrical
Full range of street lighting
Superlume
A wide range of street lighting options from HID to LED
Unique Lighting
Full range of street lighting
Visionware
Full range of street lighting
Voltex
Full range of street lighting luminaires
Voltex Smart Solutions
Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear, energy efficient and LED



INDUSTRIAL LIGHTING

ACDC Dynamics
Full range of industrial lighting: IP65 highbays, lowbays, bulkheads in aluminium and acrylic, surface-mounted and recessed fluorescent fittings, downlighting

ACTOM Electrical Products
Distributors of imported and local manufactured highbays, lowbays, bulkheads

ARB Electrical Wholesalers
Full range of industrial lighting

Atlas Group
Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays

Aurora Lighting Africa
Aurora Lighting and Enlite Lighting industrial lighting

Ausma
Full range of industrial lighting

BEKA Schröder
Full range of industrial lighting luminaires

Bellco
Full range of industrial lighting luminaires

Caco Trading
Full range of industrial lighting

Citilec
Full range of industrial lighting

Crabtree South Africa
Hi-bay luminaires

Denver Technical Products
Mains fail safety lighting

Eaton Electric
Full range of industrial lighting

Electrahertz
Full range of industrial lighting

Electroweb
Full range of industrial lighting

ElectroMechanica
IP65 4 ft Damp Proof and IP65 High Bay

Osram
Ledvance products.

Eurolux
Full range of industrial lighting

Genlux Lighting
Full range of industrial lighting

HellermannTyton
Straight-through and branch gel cable joints with connectors (Relight and Relifix) and two-component gel (Religel)

Khanyisa
Full range of industrial lighting

Krilux
Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)

Ledvance
Full range of industrial lighting

Legrand
Weatherproof bulkhead lights as well as vandal-resistant units

Lumax Lighting
Full range of industrial lighting

Major Tech
Range of high power LED floodlights

Matelec
Zodion Photocell Nema

MCE Electric
O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings

Megalight Electrical
Full range of industrial lighting

Nordland Lighting
Full range of industrial lighting luminaires

Power Panels and Electrical
Full range of industrial lighting luminaires

Radiant Lighting
Full range of industrial lighting luminaires

Shuttle Lighting
Full range of industrial lighting luminaires

Spazio Lighting
Full range of industrial lighting

Superlume
A wide range of industrial lighting options including LED, HID and fluorescent

Unique Lighting
Full range of industrial lighting luminaires

Visionware
Full range of industrial lighting luminaires

Voltex
Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays

Voltex Lighting
Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays

OFFICE LIGHTING

Aberdare Cables
Surface decorative fittings – switch start and electronic; recessed – prismatic and low brightness – switch start and electronic

ACDC Dynamics
Full range of office lighting: CFL and LED and high power LED downlights, surface and recess wall lighting; bulkheads, T5 and T8 linear lights, bay lights, glare reducing LED lamps

ACTOM Electrical Products
Distributors of imported and local manufactured downlighters, fluorescent

ARB Electrical Wholesalers
Full range of office lighting luminaires

Atlas Group
Recessed and surface lighting for all applications; energy efficient and LED light sources

Aurora Lighting Africa
Aurora Lighting and Enlite Lighting office lighting

Ausma
Full range of office lighting

BEKA Schröder
Full range of office lighting luminaires

Bellco
Recessed and surface lighting for all applications; energy efficient and LED light sources

Caco Trading
Full range of office lighting

Citilec
Full range of office lighting

Denver Technical Products
Mains fail safety lighting

Eaton Electric
Full range of office lighting

Electrahertz
Full range of office lighting

ElectroMechanica
Slim LED Panel 600 x 600 – 15 W Recessed Downlights. Osram Ledvance products.

Eurolux
Full range of office lighting

Genlux Lighting
Full range of office lighting

HellermannTyton
Straight-through and branch gel cable joints with connectors (Relight and Relifix) and two-component gel (Religel)

Khanyisa
Full range of office lighting

K. Light
Full range of office lighting

Krilux
Full range of LED lamps available (plastic+alu, LED filaments)

Lamps Electrical Distributor
Full range of office lighting

OFFICE LIGHTING

Ledvance
Full range of office lighting

Lumax Lighting
Full range of office lighting

Major Tech
Wide range of energy saving LED lighting products

MCE Electric
O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings

Megalight Electrical
Full range of office lighting

Power Panels and Electrical
Full range of office lighting

Radiant Lighting
Full range of office lighting luminaires

Shuttle Lighting
Full range of office lighting

Spazio Lighting
Full range of office lighting

Superlume
A wide range of office lighting solutions, including a new 'Lighting Solutions for Business Parks' application on our website

Unique Lighting
Full range of office lighting

Visionware
Full range of office lighting

Voltex
Recessed and surface lighting for all applications; energy efficient and LED light sources

Voltex Lighting
Recessed and surface lighting for all applications; energy efficient and LED light sources

Waco
Recessed and surface lighting for all applications; energy efficient and LED light sources

RETAIL LIGHTING

ACDC Dynamics
Full range of retail lighting: downlights, LED flexible and rigid strip lighting, LED track lighting, under-counter LED fittings, LED single modules, light box high power LEDs, LED neon flex lights

ACTOM Electrical Products
Distributors of Oplee LED lighting solutions

ARB Electrical Wholesalers
Full range of retail lighting

Atlas Group
Full range available; troffer fittings; track lights; downlights and spots

Aurora Lighting Africa
Aurora Lighting Africa retail lighting

Ausma
Full range of retail lighting

BEKA Schröder
Full range of retail lighting luminaires

Bellco
Full range available; troffer fittings; track lights; downlights and spots

Caco Trading
Full range of retail lighting

Citilec
Full range of retail lighting

Denver Technical Products
Mains fail safety lighting

Eaton Electric
Full range of retail lighting

Electrahertz
Full range of retail lighting

Electroweb
Full range of retail lighting

Eurolux
Full range of retail lighting

Genlux Lighting
Full range of retail lighting luminaires

Khanyisa
Full range of retail lighting luminaires

K. Light
Full range of retail lighting

Lamps Electrical Distributor
Full range of retail lighting

Ledvance
Full range of retail lighting

Lumax Lighting
Full range of retail lighting

Major Tech
Wide range of LED lighting to meet retail applications

Matelec
Gladiator LED utility light (12 W)

MCE Electric
O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings

Megalight Electrical
Full range of retail lighting

Power Panels and Electrical
Full range of retail lighting

Radiant Lighting
Full range of retail lighting

Shuttle Lighting
Full range of retail lighting

Spazio Lighting
Full range of retail lighting

Superlume
Full range of retail lighting

Unique Lighting
Full range of retail lighting

Visionware
Full range of retail lighting

Voltex
Full range available; troffer fittings; track lights; downlights and spots

Voltex Lighting
Full range available; troffer fittings; track lights; downlights and spots

Waco
Full range available; troffer fittings; track lights; downlights and spots

STADIUM LIGHTING

ACDC Dynamics
Full range of stadium lighting, including Gewiss Horus and Titano floodlights

ACTOM Electrical Products
Distributors of imported and local manufactured product

ARB Electrical Wholesalers
Full range of stadium lighting

Atlas Group
Floodlights; masts; poles for mounting

Aurora Lighting Africa
Full range of stadium lighting

BEKA Schröder
Full range of stadium lighting luminaires

Bellco
Floodlights; masts; poles for mounting

Crabtree South Africa
All-purpose energy saving floodlights

Eaton Electric
Full range of stadium lighting

Electrahertz
Full range of stadium lighting

Electroweb
Full range of stadium lighting

Eurolux
Full range of stadium lighting

Genlux Lighting
Full range of stadium lighting

STADIUM LIGHTING

Khanyisa
Full range of stadium lighting

Krilux
Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)

Lamps Electrical Distributor
Full range of stadium lighting

LS Lighting Structures
Floodlights; masts; poles for mounting

Megalight Electrical
Full range of stadium lighting

Lumax Lighting
Full range of stadium lighting

Major Tech
Range of high power LED floodlights

Nordland Lighting
Full range of stadium lighting

Megalight Electrical
Full range of stadium lighting

Power Panels and Electrical
Full range of stadium lighting

Superlume
A range of stadium floodlights

Unique Lighting
Full range of stadium lighting

Visionware
Full range of stadium lighting

Voltex
Floodlights; masts; poles for mounting

EXHIBITION LIGHTING

ACDC Dynamics
ACDC supports exhibition stand builders with a wide range of lighting, spots, downlighting and floodlights

ACTOM Electrical Products
Distributors of LED lighting solutions

ARB Electrical Wholesalers
Full range of exhibition lighting

Atlas Group
Available on request to customer specifications

Aurora Lighting Africa
Full range of exhibition lighting

Citilec
Full range of exhibition lighting

Eaton Electric
Full range of exhibition lighting

Electrahertz
Full range of exhibition lighting

Electroweb
Full range of exhibition lighting

EXHIBITION LIGHTING

Eurolux
Full range of exhibition lighting

Genlux Lighting
Full range of exhibition lighting

Khanyisa
Full range of exhibition lighting

Major Tech
Wide range of LED lighting from spotlights, downlighting and floodlights

MCE Electric
O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings; O-lite LED downlights; O-lite plinth and cabinet lights

Megalight Electrical
Full range of exhibition lighting

Power Panels and Electrical
Full range of exhibition lighting

Radiant Lighting
Full range of exhibition lighting

SMART LIGHTING

Aurora Lighting Africa
Full range of smart lighting

BEKA Schröder
Full range of smart lighting

Electrahertz
Full range of smart lighting

Electroweb
Full range of smart lighting

Eurolux
Limited range of smart lighting

HellermannTyton
Lux meters: T630 – digital lux meter (0-200 000 lux, data hold) T8000- lux meter (LCD display, auto power off)

Khanyisa
Full range of smart lighting

Krilux
AG0 and GU10 with built-in day/night sensor function

Matelec
Dimmable 12 W LED bulkhead

Megalight Electrical
Full range of smart lighting

Power Panels and Electrical
Full range of smart lighting

Radiant Lighting
Full range of smart lighting

Superlume
New range of Smart WiFi switches



+27 (0)11 874 7600



+27 (0)11 386 0000



+27 (0)11 879 2000



+27 (0)11 608 2970



+27 (0)10 202 3300



+27 (0)21 448 8229



+27 (0)11 207 5600



+27 (0)11 879 6600



+27 (0)11 238 0000



+27 (0)11 234 4878



Leading-edge technology in thermal cameras and IR thermometers



The Fluke Ti401 PRO thermal camera.



The Fluke 64 MAX IR thermometer.

When diagnosing problems, capturing and displaying small temperature variances makes all the difference. Comtest is offering Fluke's Ti401 and TiX501 PRO series thermal cameras, recently fine-tuned to make it easier for technicians, engineers, and electricians to get to the problem's root cause faster by identifying hot spots, cold spots, and apparent surface temperature differentials with a

higher degree of confidence. These IR cameras have increased thermal sensitivity to capture minute differences and the latest Fluke technology for on-screen clarity to make it easy to visualise issues in the field.

The Fluke PRO series cameras introduce a leading-edge visual infrared experience with the smartest, most intuitive user interface available to market. The units feature increased thermal

sensitivity that captures the smallest measurement differences, the latest technology for on-screen clarity, and lens compatibility to capture targets – from tiny to large.

The Ti401 PRO thermal camera gives 'in-focus' images in a matter of seconds. LaserSharp™ Auto Focus uses a built-in laser distance meter that calculates and displays the distance from the designated target and immediately adjusts the focus.

Users see small details in the image and can discover anomalies faster with 640 x 480 resolution thermal images.

The level of infrared and visible light can be adjusted (on camera) with patented IR-Fusion™ technology.

Manage data, capture multiple measurements (mechanical, electrical and thermal) and organise them with Fluke Connect™ software.

Top quality optics to transmit energy and produce high quality infrared images. Fluke thermal cameras use only 100% diamond-turned germanium lenses with specialty coatings.

The TiX501 PRO Hi-Res thermal camera allows for near as well as distant images. Interchangeable smart lenses require no calibration of the thermal camera and give users the versatility and image quality needed to conduct inspections in almost any environment. Advanced thermal sensitivity helps find subtle temperature differences easily.

An IR thermometer that takes heat, dust, water and a 3 m drop

Another product, the Fluke 64 MAX IR thermometer, offers internal memory, unattended monitoring, improved accuracy, increased battery life, as well as the

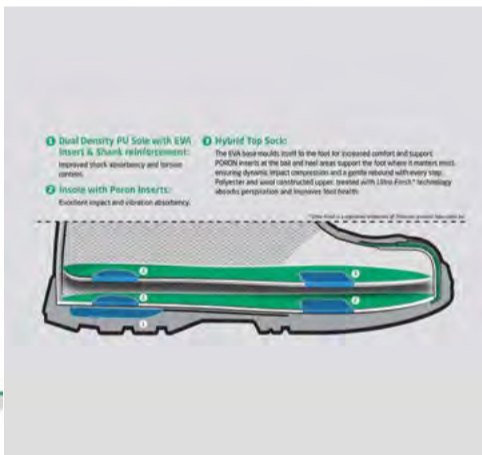
precision needed to do the job accurately. Designed and tested to survive a 3 m drop, this lightweight, compact infrared thermometer works in the harshest of environments and even when unattended. Applications include industrial maintenance, electrical and HVAC industries.

The Fluke 64 MAX IR features:

- Precise laser technology for more accurate and repeatable measurements.
- Temperature accuracy of up to $\geq 0^{\circ}\text{C}$: $\pm 1^{\circ}\text{C}$ or $\pm 1\%$ of reading, whichever is greater, with 20:1 distance to spot ratio (64 MAX).
- Flashlight (64 MAX) and large, easy-to-read backlit LCD display for easy viewing even in dark environments.
- IP54 rated for extra protection against airborne contaminants.
- Set time and desired interval between measurements and Auto Capture will capture spot temperatures unattended (64 MAX).
- 99 data point logging (64 MAX).
- Displays the minimum, maximum or average temperature, or the difference between two measurements.
- Hi and Lo alarms for rapid display of measurements outside set limits.
- The 62 MAX+ has dual rotating lasers to help identify the area to be measured. The measurement area is the spot between the dots (62 MAX and 64 MAX have 1).

For more information on the Ti401 and TiX501 PRO series thermal cameras, visit: bit.ly/3FO4ejZ. For more information on the 64 MAX IR thermometer, visit bit.ly/3DdndGC. Enquiries: +27 (0)10 595 1820

Put your healthiest foot forward



Safety footwear plays a vital part in creating a safe and healthy work environment, protecting workers' feet from the many dangers that are present in the workplace.

Safety shoes are sold with varying features and specifications – from steel midsoles, steel toecaps and metatarsal protectors – all designed to protect the feet. While necessary to protect the outside of the foot, safety footwear is not always good for the foot itself.

This raises the issue of designing ethical safety footwear. That is footwear that protects the foot, but also best promotes foot health. Safety footwear designers must allow for natural foot action to stimulate healthy blood flow, but also protect the wearer from various workplace hazards.

So, how do you strike the balance between protecting workers' feet but at the same time keeping them healthy? Those in charge of workplace health and safety need to look at three things.

1: It starts with the shape

The shape, alignment and proportional design of the mould is important, but so too is the positioning and flexibility of the sole. With increased sole flexibility, the new Bova Trax 2.0 range has improved the flexion of the sole significantly, which increases blood flow through the body. Healthy foot blood flow has many positive effects. It prevents fatigue, aids concentration, decreases stress and supports both

cardiovascular and foot function.

2: A weighty issue

The weight of a safety shoe or boot can affect a person's energy levels. By reducing the weight on a sole you are saving on energy exerted per step. For an individual taking 8 000-10 000 steps per day and spending long hours on their feet, any reduction in the weight of the shoe will reduce physical exertion. Weight in the Bova Trax 2.0 range has been reduced by 261 g per pair on average (based on a pair of size 8 shoes). This takes the equivalent of 1,3 kg off the back and reduces energy exerted by up to 2,8% per step.

3: A multi-layered approach

Employers should look for safety footwear that provides multiple layers of shock absorption and comfort. Safety footwear in the Bova Trax 2.0 range provides three layers of comfort technology that work together to absorb shock, reduce fatigue and improve overall foot health.

Bova Trax 2.0 has been designed in consultation with an expert podiatrist and guided by data collected from a broad spectrum of South African wearers. This gave birth to a safety footwear range that provides more flexibility, is lighter in weight, has better traction and delivers even greater comfort.

Enquiries: www.bova.co.za/new-trax-range.

Distance sensor with pulse ranging technology for positioning accuracy



Dynamic applications such as distance measurement and positioning in storage and retrieval machines or shuttle cars require a high measuring rate. The new R1000 distance sensor with Pulse Ranging Technology (PRT) is suitable for high-precision distance measurement. For this purpose, the dimension of the light spot was designed so that the sensor can easily compensate for mechanical influences such as vibrations and shocks. Due to its compact housing, easy integration in applications with confined installation space is possible. The red transmitter light for easy alignment of the photoelectric sensor and an integrated display ensure user-friendly commissioning and diagnostics.

Precision even at long distances

The R1000 offers an accuracy of <1 mm over the entire measuring range, which guarantees optimum positioning. This is possible due to the underlying PRT. It is currently considered the most precise method for distance measurement in the industrial environment and has outstanding measuring characteristics for demanding applications: PRT enables non-contact position determination even over large distances, so that no additional measures for fine positioning are necessary. Therefore, the devices of the R1000 series are ideally suited for demanding applications that require positioning with accuracy down to a millimetre. In addition, the sensor is insensitive to ambient light, dirt or

dust, which opens up a wide range of applications for users.

Space-saving and rugged

With ranges of up to 150 m and device dimensions of 55 x 116 x 81 mm, the sensor can be integrated even in particularly small machines or in lifting applications. Since the R1000 features metal threaded holes as standard, mounting can be carried out directly at short measuring distances. Optional mounting accessories for long-range adjustments are available.

The compact housing is based on a robust metal frame, making the series suitable for use in harsher environments. Due to the Class 1 laser, eye-safe use of the sensor is guaranteed at all times without additional protective measures.

Highlights of the R1000 distance sensor:

- Compact and robust housing for use in confined installation spaces.
- Metal threaded holes for direct mounting at short measuring distances, optional mounting accessories for long-range adjustments.
- Pulse Ranging Technology for high-precision distance measurement and positioning.
- Resistant to environmental influences such as ambient light, contamination or dust.
- Eye-safe Class 1 laser.

Enquiries: info@za.pepperl-fuchs.com



Festool takes cordless batteries to a completely new level

"Our objective is to create a tailor-made battery solution, customised to the requirements of our professional users," says Festool Product Manager Patrick Hitzer. In our everyday work, characteristics like a low weight, perfect ergonomics and a well-balanced design combined with maximum robustness play an important role. "What is particularly important is that the battery and the power tool form a coordinated system and function together correctly. As with mains-powered machines, cordless machines must have the highest levels of power, durability, and endurance. They should thus provide the necessary power and runtime required and expected by the customer to complete his tasks. If, on top of that, the entire system is durable and does its job for many years, then we've achieved our goal. A machine's battery pack forms the basis of its performance. When inserted, it's part of the tool, and therefore plays a key role in the machine having a comfortable weight and ergonomic handling, the perfect balance of synergy.

Two new flagship cordless drills with four speeds

Taking the two new flagship cordless drills to a new dimension: They are replacing their successful Quadrive PDC and DRC 18/4 predecessor versions and go by the names of Quadrive TPC and TDC 18/4. Both new products are powerful, versatile and, with four speeds, perfectly equipped to take on any application. Their sophisticated switching concept provides the right torque and speed for any application. Both powerhouses can be combined with many practical attachments – the perfectly matched accessories make them unrivalled first-class drills for a wide range of possible uses. What about your hand twisting dangerously if the drill bit suddenly jams? Don't worry – the intelligent new KickbackStop minimizes the risk of this happening, which stops the motor within a split second. This is extremely practical for tradespeople as it reduces their risk of injury to a minimum. The new-generation extremely powerful, brushless, and therefore long-lasting EC-TEC motor ensures maximum performance on both cordless drills. It impresses with even more torque and speed under load and – like all brushless motors from Festool – was developed entirely by Festool and produced in the company's in-house motor production facilities in Germany.

Decisive improvements

Festool is renowned for having provided the best plunge-cut saws on the market for many years. Joiners/carpenters, kitchen fitters, exhibition stand fitters, interior finishers, as well as parquet and floor layers, drywallers and painters can look forward to the new plunge-cut saws. The German brand manufacturer has continued to make decisive improvements to its masterpieces. From now on, the plunge-cut saws will be able to saw twice as fast, and the TSC 55 K cordless plunge-cut saw will be available immediately with the new unique KickbackStop. Festool is making it possible that Dangerous kickbacks will be a thing of the past.

Energy – well packaged

This year Festool introduced a new Systainer solution, making you perfectly equipped for when you are on the move. The energy set has two battery packs and a charger, all packed in the new Systainer³. This puts everything you'll need for on-the-go working within easy reach. The energy set is available with different equipment according to the individual main applications and energy requirement. You can tailor your own specific energy set with the battery power required. The energy set offers extra space for two additional battery packs and another charger. All neatly stowed in the Systainer³, of course. Thanks to the Li-HighPower cell technology, the Li-HighPower battery packs are powerful enough for any application and compatible with all Festool cordless products.

Even lighter and more mobile

Also available is the Duradrive DWC 18 cordless drywall screwdriver, the BHC 18 cordless hammer drill and the ISC 240 cordless insulation saw in a new combination: With the new Li-HighPower Compact battery pack, which weighs 20% less yet offers the same performance. All perfectly packed

in the new Systainer³, which uses customized vehicle integration as the ideal solution for connecting the workshop and the construction site – and is also compatible with the whole Systainer system.

To increase drilling and screwdriving options, Festool has relaunched its bit assortment with the handy SYS3 XXS CE-MX BHS 60. This includes bits and a bit holder for all Festool cordless drills with the FastFix interface which is synonymous with Festool and the innovative technology. Also available now in the MINI version of the new Systainer³ generation; a Forstner drill bit with a CENTROTEC interface. The set comprises five Forstner drill bits (15, 20, 25, 30, 35 mm) as well as a 4 mm dia. conical centering bit and punch – with a transparent lid.

Enquiries: www.vermontsales.co.za



HellermannTyton
www.HellermannTyton.co.za

HellermannTyton Insulation Tape Family

"Quality you can trust"

Premium Vinyl Electrical Tape HelaTape Flex 1000+

- Operating temperature -18°C to + 105°C
- UV stable
- Available globally
- Available colours: ■ □ ■ ■



Electrical Insulation Tape Hellertape: HT2 and HT3

- Operating temperature -10°C to + 80°C
- Cold and weather resistant
- Flame retardant
- Available colours: ■ ■ ■ ■ ■ ■ ■ ■

**SAFE™
HOUSE**
Suppliers you can trust

Johannesburg
Tel: (011) 879-6600

Durban
Tel: (031) 492-0481

Cape Town
Tel: (021) 594-7100

Gqeberha (PE)
Tel: (041) 408-2400



www.shop.hellermanntyton.co.za



Email: sales.jhb@hellermann.co.za
Website: www.HellermannTyton.co.za

Do's and don'ts for installing electricity sub-meters

Recharger Prepaid Meters, through its prepaid electricity sub-meters, has brought convenience to a significant number of home and business owners and tenants across the country.

A prepaid electricity sub-meter assists users to control and regulate their usage of electricity. It works much like a prepaid cellphone, whereby usage is paid for upfront, therefore eliminating unexpectedly large bills that can occur when paid monthly in arrears.

In this article, Recharger, through its technical support division, aims to raise awareness of specific criteria that are essential for the safe installation of the current single phase prepaid sub-meter products.

Recharger unpacks some of the real-life information that has come to our attention through direct communication with our clients, and advises on how to install the sub-meter correctly, as well as offering tips on how not to carry out an installation.

What main factors must be considered when a prepaid sub-meter is installed?

It must be noted that the Recharger prepaid electricity sub-meter is not intended to replace the primary Eskom or municipal meter. A registered electrician must install the prepaid sub-meter.

- The installation will differ in each building, as it will depend on whether it is a free-standing home (residential) or a larger building with individual units (residential or commercial).
- You will need to choose between a single-phase and three-phase meter before the installation, as per your building requirements.
- The number of meters you install will depend on how big the property is, as well as the number of unit owners within the property who will require them.

Another consideration would be the placement of the prepaid sub-meter. The prepaid sub-meter should be placed between the primary meter and the rented unit's distribution board (DB). If the building is new, it is possible that the units may not have their own meters and so the prepaid sub-meters should be installed between the municipal

board and DB of each unit.

What do you need to bring with you to the installation site?

To complete a prepaid meter installation successfully, the following tools are required:

- Star and flat screwdrivers.
- Cutting pliers.
- Electrical pliers.
- A drill, for mounting of the sub-meter.
- A level.
- Multimeter.
- Insulation tape.

The registered electrician should also provide a Certificate of Compliance (CoC) once they have successfully completed and tested the entire installation.

The step-by-step process of installing the single phase prepaid sub-meter

The Recharger prepaid electricity sub-meter must be installed by a registered electrician, as follows:

- Position the sub-meter in the required installation area and mark off the holes for the mounting screws, ensuring that the sub-meter is level. Drill the holes for the screws and mount the sub-meter onto the surface.
- Once the meter has been mounted, switch off the main supply from the main DB before making any connections to the sub-meter.
- Unscrew and remove the front plastic cover.
- Connect the supply from the main DB to the terminal block of the sub-meter, ensuring that terminal 1 is the Live and terminal 2 is the Neutral. Check that the terminal screws are tightened so that the wires are not loose.
- Connect the Load Circuit (supply to the sub-DB) to the terminal block of the sub-meter, ensuring that terminal 3 is the Neutral and terminal 4 is the Live. Ensure that the terminal screws are tightened so that the wires are not loose.
- Screw on the front cover, ensuring that it is tightly fastened.
- Switch on the power from the main DB to the meter. A flashing red or green LED will now be visible and power will be flowing through the

sub-meter, successfully completing your installation.

- If there is no red or green LED indicator, it means that the sub-meter is not being supplied power and the connection to the sub-meter is incorrect – therefore, check your supply or your wiring installation.

Common installation errors

Some of the main errors when installing a prepaid electricity sub-meter, as reported by our customers, include the following:

- Incorrect wiring of the sub-meter.
- Wiring the sub-meter in reverse (in other words, swapping of the incoming and outgoing cables).
- Bypassing of the sub-meter (incorrectly wiring the installation without going through the sub-meter).
- Bridging of the sub-meters (connection of the load directly to the incoming supply).

The most common error is wiring the sub-meter in reverse. This is where the incoming supply is wired onto the outgoing terminals of the sub-meter and vice versa. It is also common to find that the electrician has not replaced the sub-meter cover securely after the installation is completed. Another common error is finding a single-phase sub-meter incorrectly connected to a three-phase distribution board. Residential homes are usually served by a single-phase power supply, while commercial and industrial facilities typically use a three-phase supply.

The reasons for these errors include the following:

- Not reading the wiring instructions in the user manual.
- Lack of education in this area / the work was done by persons who were not registered electricians.
- Illegal electricity connections.
- The tamper being activated before the installation is completed.

Product quality and warranties

Recharger proudly offers a life-time warranty on our selected sub-meters (subject to terms and conditions). We are the first local prepaid electricity sub-meter company in South Africa to do so.

Such a warranty, for example, is offered on our best-selling offering for the residential market, namely the Recharger



Correctly installed.



Incorrectly installed.



Illegal bridge connection.



Illegal bypass connection.

Single Phase 80 Amp sub-meter. This device features a built-in battery which ensures that the sub-meter is on, even if the power is out, keeping it alive even during power outages. Additionally, the sub-meter cannot be tampered with, regardless of whether there is power or not.

International specifications and installation guidelines

In addition to supplying a comprehensive range of three-phase and single-phase electricity sub-meters, the prepaid sub-meters offered in Recharger's range are all of international standard, as well as STS (Standard Transfer Specification) certified, and installed independently.

The STS standard, which was an initiative by Eskom in 1993, provides compatibility between certified STS-compliant electricity dispensers and vending systems in the electricity dispensing industry

to the benefit of the customer, distributor and agent.

Final advice regarding installations

It is important to reiterate that a Recharger prepaid sub-meter is not intended to replace a municipal/utility provider meter. It is purely used for a landlord/tenant setup.

Secondly, it's imperative to ensure that you switch off all live cables from the main supply before making any connections. Finally, advise your clients to pre-register the Recharger prepaid sub-meter before installation so that when the sub-meter is installed, it has already been registered.

By Colin Openshaw: Consultant and Shareef Khan: Engineer, Recharger Prepaid Meters

Enquiries: info@recharger.co.za

New range of PrismaSeT LV switchboard allowing for ground-breaking innovations in electrical distribution

Schneider Electric has announced the launch of the new PrismaSeT LV switchboard for its EcoStruxure™ Power architecture. PrismaSeT is the optimised, tested and IEC compliant solution, based on more than 30 years of experience in low voltage switchboards.

In response to the need for superior operational safety, the new PrismaSeT switchboard is designed to enhance fire prevention with IEC 61439-1 & 2 type-tested functional units, and optional, innovative PowerLogic™ HeatTag sensor.

The robustness of the new panel has been improved significantly to gain efficiency at every level and provide peace of mind to panel builders, electrical contractors and facility managers. Reinforced frame and doors make it easier and safer to operate and maintain the LV switchboard and ensure its durability in any environment.

The new design of PrismaSeT is elegantly minimalist and modern to increase customer satisfaction.

To improve on sustainability at all levels, Schneider Electric has eliminated the use of plastic packaging for PrismaSeT switchboard. The new green packaging decreases the quantity of waste and its disposal cost by using only recyclable cardboard.

New generation of ComPacT breakers

Schneider Electric unveiled a new generation of its trusted ComPacT molded-case circuit breakers, featuring a refreshed design and tailored for operational excellence and major simplification of maintenance activities.

The ComPacT range is now connectivity-ready, and modular plug-and-play accessories expand the capacity for advanced monitoring capabilities. This design breakthrough

comes in a unit that is the same shape and size as its predecessor – making it easy to retrofit breakers already in use and giving customers the option of expanding the capabilities for ComPacT trans-generationally to unleash digital intelligence. An additional improvement to the design is the introduction of a semi-transparent front faceplate. This innovation makes it easy to see, at a glance, that all components and auxiliaries are correctly installed.

Connectivity also revolutionises and enhances installing, maintaining, or upgrading the all-new ComPacT range. New wireless auxiliaries give users improved insight into their electricity distribution system to maximise power availability. By putting data in the hands of users anywhere, anytime, for increased monitoring and decision making, this advancement redefines how we work in the IoT age.



The new PrismaSeT LV switchboard.



New generation of ComPacT breakers.



PowerLogic HeatTag.

PowerLogic HeatTag

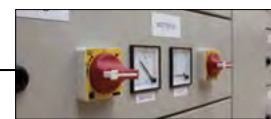
The PowerLogic HeatTag sensor is a revolutionary new product designed to provide fire prevention for switchboards. Its proactive heating detection technology reduces the risk of fire drastically.

Through an artificial intelligence algorithm, this wireless sensor continuously analyses the air inside the panel in real time to detect any cable overheating. When an anomaly is detected, long be-

fore a fire starts or smoke even appears, a notification is instantaneously received by the facility manager, on their smartphone or Building Management System.

A simple, but very effective way to drastically improve the safety of buildings and facilities that takes full advantage of being connected to the Schneider Electric cloud.

Enquiries: www.se.com



Highly efficient home automation solutions improve safety and enhance energy efficiency

Homeowners all over the world are looking for simple and cost-efficient ways to have a perfectly connected home. The investment in a home is one of our greatest commitments, which is why it's important to enhance the value of our properties by maximising comfort and improving security at home.

According to Legrand specialists, smart homes are no longer an intimidating and unaffordable luxury, but with the advancement of user-friendly technology, home automation is now easily attainable. Through 'Arteor with Netatmo', which is easy to install, configure and use, Legrand has made smart homes a reality for South African homeowners.

Legrand's Arteor with Netatmo is a collection of connected switches and socket outlets that make home automation effortless. This convenient system adds comfort, simplicity and safety to daily life, at the same time ensuring energy savings to combat escalating electricity costs.

Arteor with Netatmo is a radio technology and Wi-Fi enabled solution which simplifies usage by making complex functions in home automation easy to use. This home automation system offers homeowners and electricians the freedom to create a connected, customised home by combining controls and features to manage scenarios, create centralised functions and allow remote-control of individual functions – to suit exact requirements. Users are impressed at how many useful functions can be implemented in the installation, using a few simple components.

Legrand's voice-control technology makes it even easier and more hygienic to control the home, by minimising the need to touch surfaces. Users simply need to give uncomplicated voice commands to Siri, Google Assistant or Alexa, to manage lights and home appliances, without lifting a finger. It's as easy as saying: "OK Google, turn off my bedroom lights" – Google Home; "Hi Alexa, open my blinds to 50%"



Msebe acquires a controlling stake in Power Process Systems



Nhlanhla Zondo and Michael du Toit.



E Toth, N Zondo, M du Toit, F Zondo and C du Toit.

Msebe Investment Holdings (Msebe), an investment company with interests in energy, health and retail, has announced that it has acquired a controlling stake in Power Process Systems (PPS), an electrical enclosure and distribution equipment manufacturer. All the Binding Agreements were concluded on 4 October 2021.

Msebe will take an active and operational role in the business with Nhlanhla Zondo (director) and Msebe's technical team working directly with the PPS management staff. Zondo is an accomplished electrical engineer with more than 25 years' business and operational experience and has held various leadership roles in South Africa. He is currently a registered Professional Engineer with ECSA as well as a director at Msebe.

"We have been driving towards this eventuality for a few years now and we are excited by the prospects of growing the company's footprint and strengthening the business. The investment represents an important strategic opportunity, one which has not been fully realised due to limited transformation efforts – fortunately, that all changes now," says Zondo.

A significant feature of this acquisition is that there is no funding arrangement or equity scheme. This is a straightforward buy and sell transaction. Msebe Investment Holdings has purchased its shares off its own balance sheet, and having made the financial

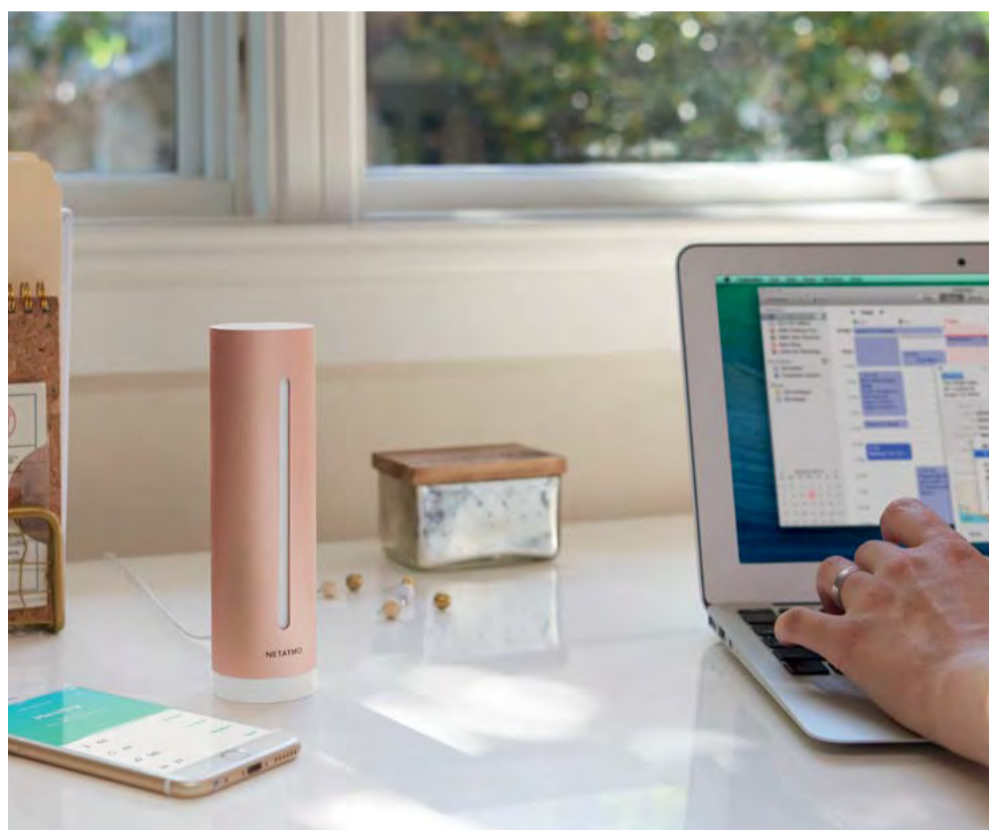
commitment, is very keen to participate in driving the business to grow this investment.

Power Process Systems will be celebrating its 30th birthday in 2023. During the company's tenure it has supplied meter kiosks, pole boxes, distribution cabinets and stubbies to some of the largest and most complex reticulation projects in the country. Today, with facilities in the Western Cape and Gauteng, the business has long standing relationships with most municipalities, Eskom, developers and contractors across South Africa, and have supplied major contracts in Namibia, Botswana, Uganda and some European customers.

"We are excited about the future," says Mike du Toit of the present team. "We have connected with a business and people who we are confident will share our commitment and passion to grow the business into the future sustainably. Msebe has put their money where their mouth is – they now have as much a vested interest in the business as all our shareholders. And as Nhlanhla pointed out, this was not a rushed transaction – it has been done right."

The present and incumbent shareholders have engaged in many transactions and projects together to date and are comfortably familiar with each other and what each brings to the partnership.

Enquiries: www.ppspower.co.za



– Amazon Alexa and "Hey Siri, turn on my kitchen socket."

This flexible system is easily integrated into existing installations, requiring no additional wiring, as it uses the existing electrical infrastructure. To upgrade or extend an installation, Arteor with Netatmo wireless connected controls can be paired with wired devices. Selected scenarios can be modified and upgraded at any time, according to changing needs. By using wireless switches, users have their controls always exactly where they want them.

If furniture is re-arranged or small children need to be able to reach a switch, the wireless switches can be repositioned easily at any time. All functions can also be used in the traditional way via switches on the wall.

Arteor with Netatmo creates central control of lights, curtains and roller blinds and also manages scenarios in and away from the home. A single press of a button turns off the lights and closes curtains and shutters, as the user leaves home. A scenario can be set to switch off lights and socket outlets when users go to bed and, in the morning, they can enjoy the 'wake up' scenario, where a soft light comes on and curtains open automatically. It is also possible to simulate presence when no-one is at home.

In the event of a power failure, fire alarm signal or safety siren while users are away, the app gives an automatic alert so appropriate action can be taken. Greater energy efficiency is achieved by checking real-time energy consumption and doing in-depth analysis.

Legrand's Netatmo smart range encompasses connected security, energy, weather and air care products.

Netatmo smart security systems include security cameras, alarms, window and door sensors, and sirens and smoke alarms that offer total peace of mind. With Netatmo security products, users are alerted wherever they are, via the Netatmo App.

Smart thermostats and radiator valves, which can be used in conjunction with existing heating systems, are designed to save energy while enhancing comfort in the home.

The Netatmo smart home weather station, rain gauge and anemometer efficiently measure and analyse the indoor and outdoor environment, while smart indoor air quality monitors ensure the best noise level for sound sleeping or the correct humidity levels for a child with asthma. This smart monitor, with advanced sensors, highlights potential problems and advises on how to fix them.

Luxul wireless routers also form part of connected home solutions by combining wired router functionality with extended coverage, dual-band wireless technology.

Legrand is committed to making smart connected homes easily accessible for South African homeowners and continues to develop new products and upgrade existing systems to ensure the best smart home experience. The company's team of home automation experts offers a technical advisory and support service throughout the country.

Enquiries: legrand.south-africa@legrand.co.za



Solar LED streetlights donated to KwaZulu-Natal community



This solar lighting installation has a positive impact on the youth of the Hammarsdale community.



With the solar-powered luminaires, visibility at night is increased, and a child-friendly environment for the community children as well as the neighbouring schools is created.



Six solar-powered LED lighting units were donated to the community, providing much needed lighting at night.

BEKA Schröder is proud to have been involved in a project that made a positive impact on the youth of Hammarsdale and Marrianridge near Durban in the KwaZulu-Natal Province of South Africa. Six solar-powered LED lighting units were donated to the community, providing much needed lighting at night.

BEKA Schröder and Imbizo Foundation, in collaboration with the Light Shines project, donated solar-powered luminaires to the communities of Hammarsdale and Marrianridge, located a few kilometres outside Durban. This project was initiated to support the new Eco-Hub which is being built by social entrepreneur Nkanyiso Madlala.

The solar-powered luminaires provide lighting for Halala Primary School, as well as the Imbizo Foundation's Eco-Hub, which will host many kids of Hammarsdale and Marrianridge, who have no access to computers or 3D printers.

The idea behind the project came as a result of the great need and hunger in the community for innovation and community development. In this community, the public spaces do not have any exterior lighting and are therefore dark, which has led to high levels of crimes. With the solar-powered luminaires, visibility at night is increased, and a child-friendly environment for the community children as well as the neighbouring schools is created.

BEKA Schröder are pleased that this lighting installation has made a positive impact where the community feels safer at night. This co-lab project is yet another wonderful example of how South Africans can work together to make things better for all.

BEKA Schröder locally develops and manufactures energy-efficient LED lighting products, designed and suitable for local conditions. The company is extremely proud to be associated with this very special project in bringing lighting to a community.

Enquiries: info@beka-schreder.co.za

Signify CEO urges doubling the pace of building renovations after COP26



"Adopting energy-saving technologies can instantly relieve many of the urgent energy challenges the world is facing in electricity and fuel shortages and price hikes."

With the COP26 global climate conference concluding in Glasgow, Signify CEO Eric Rondolat took the opportunity to remind the world that Internet-connected LED lighting can help slash carbon emissions.

While general awareness of LED energy efficiency has been long established, what was notable about Rondolat's message was the emphasis on connected lighting – which enhances efficiency gains by adding the intelligence of smart controls and usage analysis.

In a broad general scenario, Signify estimated that a switchover to connected LED lighting in the professional market could reduce CO₂ emissions equivalent to the amount that 25 billion trees can absorb in a year. The electricity savings would be equivalent to the annual consumption of 494 million households, the company said.

"Interventions like the switch to renewable energy take time to yield results," Rondolat said. "Adopting energy-saving technologies can instantly relieve many of the urgent energy challenges the world is facing in electricity and fuel shortages and price hikes. We can act today by accelerating the switch to energy-efficient lighting, by doubling the rate of building renovations per year, and by mobilizing consumers to make their own significant impact in the Race to Zero."

The Race to Zero is a United Nations campaign to reduce carbon emissions to zero by 2050 at the latest. COP26 is the popular name for the 2021 United Nations Climate Change Conference; it is the 26th meeting of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change, held first in Rio de Janeiro in 1992.

Rondolat's call for accelerating the switch, and for picking up the pace of building renovation, perhaps belies what the Signify boss has in the past described as a long education process in convincing the market of the benefits of connected lighting. Uptake by commercial users has been slower than the industry – not just Signify – had hoped for, although earlier this week Rondolat expressed confidence that users

are now tuned in.

Still, the rate of conversion has been sluggish. Last August, Rondolat criticised what he called the "glacial pace" of the move away from conventional lighting in the commercial market. Earlier this week, Swedish LED lighting company Fagerhult Group's CEO Bodil Sonesson noted that "the share of installed LED lighting is only about 30% in Europe." Speaking during her company's third-quarter financial presentation, she added that "connectivity gives an additional 70% efficiency."

The fluorescent lighting that remains a strong part of the mix also comes with environmentally damaging mercury. Campaigners are pushing to eliminate fluorescents for that reason. They have called on Rondolat to join a movement that would end a mercury exemption for fluorescent. In an international treaty known as the Minamata Convention on Mercury, 135 countries agreed in 2013 to end the use of mercury in products and processes but granted an exemption to fluorescent lighting on the grounds that there were no cost-effective alternatives. Times have changed. Roger Baros, who leads a pan-African contingent of Minamata, has proposed an amendment that would add fluorescent lighting to the ban.

Signify has taken many measures aimed at environmental sustainability, including eliminating plastic from consumer packaging, tapping renewable energy electricity sources, and using 3-D printing for some of its luminaires.

Rondolat made his connected lighting comments in a press release. He was not in attendance at COP26, where Signify is represented by, among others, Harry Verhaar, head of global public and government affairs, and by Stephen Rouatt, CEO for UK and Ireland.

"Driving energy efficiency improvements will reduce emissions and at the same time save businesses and consumers money, and create jobs," Rondolat said.

Enquiries: www.signify.com

US hotel illuminated by a statement chandelier by leading South African lighting house

The much-awaited first JW Marriott in Charlotte, North Carolina celebrated its grand opening on 18 August 2021. The upscale hotel is described as an urban luxury retreat, and boasts an impressive rooftop bar and pool, oyster bar, Spa by JW,

an authentic restaurant, and luxurious well-appointed rooms. However, there is one standout feature that truly lights up the hotel – a strikingly exquisite chandelier adorns the welcome lobby.

This custom chandelier is monumental; the one-of-a-kind piece requires an impressive 26 cubic meters of hanging space and weighs over a tonne. Though it now hangs magnificently over a curving staircase in the hotel's lobby area, it originated on the other side of the Atlantic! This exquisite lighting piece journeyed all the way from Cape Town, where it was created by leading South African-based lighting company, wil-

lowlamp to take its place as the talking point of this leading hotel.

Enquiries: www.willowlamp.com





4 Tips to improve garage lighting



If you are ever asked by your clients for ideas on how to improve their garage lighting, Radiant Lighting has the answers.

Layer your lighting

Just like the rest of your home, the garage is a multi-functional space. This means that layering lighting here is as important as it is for any other room. While overhead lighting is standard in most garages, additional artificial lighting is necessary for functional reasons.

- **Ambient lighting:** This is general lighting for the garage and illuminates the floors and walls so that you can navigate the space safely on foot and park your car.
- **Task lighting:** This lighting is brighter than ambient lighting and is installed in work and storage areas of the garage so that you have increased visibility during detail-oriented and organisation activities.
- **Accent lighting:** This lighting is used to highlight standout features in your garage. Perhaps an open shelf display of signed soccer balls or a cabinet housing a prized trophy collection?

Position your layered lighting correctly

- **Ambient lighting:** This type of lighting should cast an even spread of light across your garage floor, so position any ceiling lights in the centre of the room. If using multiple fixtures then ensure they are equal distance from each other on the ceiling.
- **Task lighting:** Your choice of task lighting should provide you with downward, direct light and reduce glare. Lighting with an adjustable neck is also handy for workbenches so that you can direct the beam exactly where you need it most.
- **Accent lighting:** The purpose of this lighting is to highlight specific objects or areas in the garage. Position the light so that it shines directly on what you want to showcase. Track lights and LED strips lights are great options.

Choose LED bulbs with a high CRI

If you're using your garage as a workshop or a place to dabble in DIY projects then you'll want your lighting to render the colour of woodwork, paint, and other items as realistically as possible. To achieve this, use bulbs with a CRI (colour rendering index) of 85 to 100. A bulb with a CRI of 100 represents the CRI of daylight at midday. Now is also the time to consider switching to LED bulbs. They offer between 15 000 and 30 000 hours of illumination which means you won't have to climb up on a ladder to change them as often as regular bulbs.

Don't forget the entrance

You have identified your lighting needs for inside the garage, but what about the outside? The entrance of your garage is no place to be fumbling around for keys or a remote to open up. A motion sensor floodlight will illuminate your garage entryway whenever movement is detected and will automatically turn off when movement ceases for a certain period of time. It's also a great safety and security measure as it should deter would-be intruders who prefer to operate in the dark.



RO363 LSL0002BL
Outdoor Bollard
200mm(w) x 1000mm(h)

www.radiant.co.za

OUTDOOR LIVING



RO370 LSL0009BL
Aluminium Bollard
120mm(w) x 750mm(h)



RO404 LS0022
Sand Black Bollard
180mm(w) x 796mm(h)



RO281 LS450 SST
Slate Stainless Steel Bollard
117mm(w) x 1000mm(h)

Radiant Lighting has a diverse range of outdoor lighting designs perfectly suited to improve your outside living area. Whether you want to tighten security, enhance exterior lighting or simply refresh your outdoors, our team of specialists are on hand to help you create your perfect garden.



JHB +27 (0)11 386 0000

CPT +27 (0)21 521 2500

DBN +27 (0)31 263 0096

Enquiries: www.radiant.co.za



Major Tech



Rhodam Evans
Technical Director



Angela Gollino
Financial Director

BEKA Schröder



Daniel Kasper
General Manager

Rubicon



Calvin Beldon
Division Head, Analytics & Engineering Support

BBF Safety Group



Nico Malewa
Divisional Manager

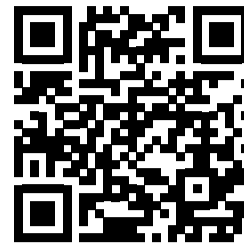


Deidre Pieterse
Administrator

WearCheck



Rene Tshapenda
Laboratory Manager/Deputy Emergency Controller



SCAN THIS QR CODE TO READ THE LATEST ISSUE OF SPARKS ELECTRICAL NEWS ON YOUR MOBILE DEVICE.

SUBMIT your photos of new appointments and promotions to People on the Move at sparks@crowm.co.za. All photos must be in jpeg format and high resolution (at least 1 MB when attached).

HONEYCOMB MODULAR LEDS

LED CANNON HI-MAST FLOODLIGHTING

JAEGER GERMICIDAL UV-C LIGHTS

MEGALED BAY INDUSTRIAL LIGHTING

LOCALLY MANUFACTURED

Giantlight

Taghe

Giantlight (Pty) Ltd
011 704 1450 / 082 451 5506
www.giantlight.co.za

LIGHTING FOR EVERY APPLICATION

BRIGHT SPARK

TAKE A GUESS

A man raced his car through the streets with his wife as his only passenger. When they stopped, the husband got out of the car. When he returned, his found his wife dead and a stranger in the car. What had happened?

NOVEMBER SOLUTION

The woman was visiting a zoo.

JANUARY 2022

- Cables and cable accessories
- Standby and Emergency Power
- Lighting

Buyers' guide

- Standby and Emergency Power

FEBRUARY 2022

- DBs, switches, sockets and protection
- Energy Measurement and Supply
- Lighting

Buyers' guide

- Distribution boards, switches, sockets and protection

Editor:
Gregg Cocking
082 870 6390
sparks@crowm.co.za

Advertising:
Carin Hannay
072 142 5330
carinh@crowm.co.za

Design:
Anoonashe Shumba

Publisher:
Karen Grant

Deputy publisher:
Wilhelm du Plessis

Published monthly by:
Crown Publications (Pty) Ltd
P O Box 140
Bedfordview, 2008
Tel: (011) 622-4770
Fax: (011) 615-6108
e-mail: sparks@crowm.co.za
Website: www.crown.co.za

Printed by: Tandym Print

The views expressed in this publication are not necessarily those of the editor or the publisher.

This publication is distributed to electrical contractors, wholesalers, distributors, OEMs, panel builders, Eskom, mining electricians and consulting engineers (electrical) as well as libraries, members of IESSA and public utilities.

abc Total 10 151 per month.