

- Tools of the trade
- Energy measurement and supply
- Lighting

REGULARS: Contractors' corner | Buyers' guide | People on the move

ENTRIES NOW OPEN FOR ECA'S ANNUAL PRESIDENTIAL EXCELLENCE AWARDS



Some of the judges who will be adjudicating the ECA(SA)'s annual Presidential Awards met at the ECA(SA)'s Highveld office for preliminary discussions around this year's competition. They are: Carel Ballack; Tlepe Mpe; Rob Anderson; Mark Mfikoe (ECA national director); Rorisang Morake; and Johnny Cunniff (ECA president). Absent: Hope Mashele; Lebo Leshabane; and Dimakatso Matshoga. Entries open on 1 June, 2017 and details will be available on the ECA(SA) website.

Mark Mfikoe, national director of the Electrical Contractors' Association (SA) recently announced that entries for the ECA(SA)'s sixth annual Presidential Excellence Awards will open on June 1. Mfikoe says the awards, which were inaugurated in 2011, are "a celebration of exceptional workmanship and professionalism within the electrical industry".

The industry's top achievers in the 11 categories will be announced at a banquet at the Birchwood Hotel and Conference Centre in Boksburg on 16 November.

The categories are:

- Installation of the Year - Retail
- Installation of the Year - Residential (new)
- Installation of the Year - Office Blocks and Hotels
- Installation of the Year - Industrial
- Best Contributor to Energy Efficiency
- Reticulation Contractor of the Year
- Apprentice of the Year
 - Male
 - Female
- Woman-Owned Business of the Year
- National Safety Award
- Special Innovative Projects Award
- ECA(SA) Regional Excellence Award

The entries are adjudicated by a panel of respected judges

drawn from the electrical, engineering and construction sectors. They are: Carel Ballack; Tlepe Mpe; Rob Anderson; Rorisang Morake; Hope Mashele; Lebo Leshabane; and Dimakatso Matshoga.

Entries are available from all the regional offices in Pretoria, Durban, Port Elizabeth, Bloemfontein and Cape Town.

Enquiries: +27 (0)11 392 0000

NEW SABS CALL CENTRE NUMBER

In order to improve the customer experience at the SABS, a streamlined centralised channel has been implemented for customers that will ensure traceability, business continuity and constant feedback when handling customer queries and requests for SABS services and products.

All customers can now direct requests and queries to the central call centre at 0861 277 227 or email info@sabs.co.za.

OMESTO®

Quality has a name!

- IP55 Outdoor Weatherproof Switches & sockets

NEW

- NEW RSA Specification 16A Schuko Socket
- Compatible with all Matrix Modules (see page 4)

- 1 way module to 6 way modules
- Create your own combinations

MCE

ELECTRIC

WARMS PEOPLE AND THE ENVIRONMENT

80% more economical than gas

No gas burning smell | 5000 hour lamp life

www.technilamp.co.za

L I G H T I N G

ENLITE®

E S S E N T I A L S

BIG PERFORMANCE | HIGH QUALITY | LOW PRICE

new v5 catalogue out now • 160+ new products

EBCX CurveE PolaCXS Lumi-Fit Ariah2

011 234 4878 info@enlitemlighting.com za.enlitemlighting.com An **AURORA** Group Company

SIMPLE CHOICE PRACTICAL SOLUTION

Cleaner design lines, more cost effective, easy-clip covers, aesthetically pleasing



Execuduct MkII PVC

Powerskirting is a unique modular system allowing single and double tier ducts to be combined to form a market leading triple tier duct system for the even heaviest wiring requirements. Available in grey and white.

Platinum PVC Powerskirting is available in single and double compartments with features seen in European systems. Available in grey, white and black.

Suitable for all environments especially the traditional office and light industrial applications.

Floor level or dado rail installation. 3000mm standard length.

Strong, light and rigid making it easy to install.

Lead-free, making it an environmentally sound option for any 'green' building requirement.

Platinum and Execuduct MkII are unique in that they utilise the same cradle and cover accessories reducing stock holding for the installer.

Call us on **011 622 8633** or visit our website for your free catalogue.

Execuduct®
MKII PVC
Powerskirting

Platinum
PVC
Powerskirting

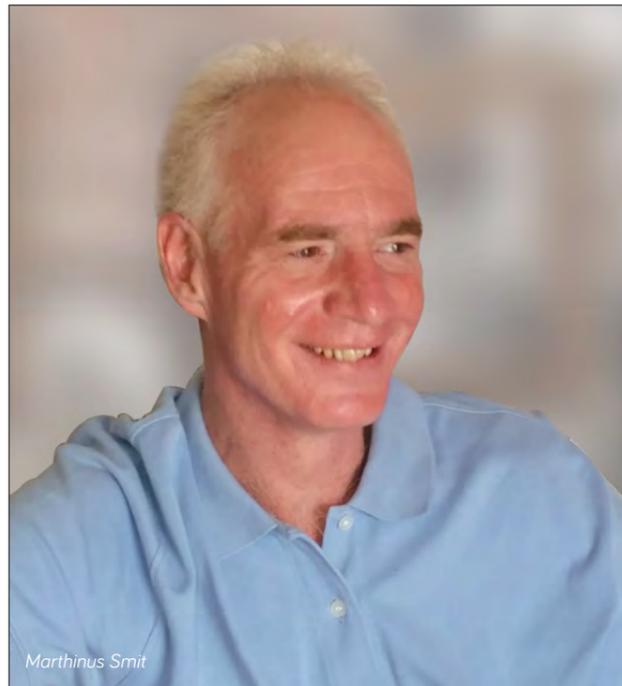
CABSTRUT

Cable and Reticulation
Management Systems





THERE MUST BE A SIMPLER AND BETTER WAY



Marthinus Smit

MARTHINUS SMIT, has been the technical director at Shuttle Lighting Control Systems for 20 years. His principles and business fundamentals which, he says, he learnt from his long-term business partner Reg Smith, have ensured their company's staying power as a force to be reckoned with in the electrical industry. Smit says that solving problems is the most enjoyable part of his job, and it is no doubt this passion that has ensured Shuttle Lighting Control Systems success on the local and international markets.

Sparks: Where were you educated?

MS: I matriculated at Hoërskool Brandwag in Benoni and then enrolled for a degree in electrical engineering at Rand Afrikaans University (now University of Johannesburg), where I obtained a Doctor Ingeneria (D. Eng.) degree in electrical and electronic engineering.

Sparks: How long have you been involved in the electrical industry?

MS: Since I left university in 1993.

Sparks: When and where did you start your career?

MS: I had a bursary from the CSIR and joined a military research division directly after university. Two years later, I moved to one of the commercial divisions of CSIR two years later, where I had my first exposure to the commercial environment. After another two years and two engineering colleges, I left the CSIR to start a company with others; and this eventually evolved into Shuttle Lighting.

Sparks: What major projects have you worked on and what is your greatest accomplishment?

MS: I was part of the team that developed a 16 MVA, 132 kVA offline cable tester. Besides tremendous electrical and electronic challenges, we also

faced mechanical challenges since the equipment weighed 16 Tonnes!

My biggest professional accomplishment is being part of a team that takes initial product concepts from whiteboard design to a compliant commercial product. Some of our designs are in products that are patented in seven countries, have been featured on programmes in the US and are available around the globe. It is extremely rewarding to see our products on shelves and know that we are delivering value to our customers.

Sparks: Who has been your inspiration or have you had a mentor who has influenced your career?

MS: It is always easy to mention people such as Branson or Jobs as an inspiration, but for me, it's much closer to home. As a technical person, my university mentor, the esteemed Prof. JD van Wyk, is a continuous inspiration. He instilled a discipline of fundamental engineering principles: *understand every aspect of the design, calculate twice and measure five times and any technical problem can be solved.*

In the business world, my long-term business partner, Reg Smith, is my biggest influencer. He taught me the fundamentals of business and technical marketing and the importance of business integrity as well as staying power. His mottoes, "an error of commission is better than an error of omission" and "just do the right thing" have become daily principles.

Sparks: What, to your mind, is one of the biggest challenges facing the industry at this time?

MS: Our electrical industry seems to be in a continuously cost down spiral and therefore easily succumbs to the lures of cheaper non-compliant products or cutting corners to reduce costs. However, in doing so, we eventually cause damage to the integrity of our industry, if not physical damage when a building burns down. In many cases, lack of knowledge and lack of policing by our authorities are to blame.

Sparks: What do you enjoy most about your job?

MS: The continuous challenges and satisfaction of solving problems.

Sparks: How do you motivate your staff?

MS: I think any person is inherently motivated by the promise or vision of a better future. In our case, the vision of what new technology can offer our company and how we can improve our products is a natural motivation for our team members.

Sparks: If you could "do it all again", would you change anything? If so, what would that be?

MS: Looking back at the journey, I would probably not change it too much. Each step, each hardship and each disappointment shapes one's personality as much as the successes and joys and all these are a learning curve one must go through.

Sparks: Would you advise a person leaving school to enter the electrical industry? And why?

MS: Yes, our industry is dynamic and we face new challenges every day, which makes life exciting! We need people to understand the challenges and we must work hard to create our own technology and local manufacturing to be competitive in the local and international markets.

Sparks: What is your advice to electrical contractors and/or electrical engineers?

INDUSTRY BODIES CRUCIAL FOR CREDIBILITY

The lighting industry of South Africa is represented by the Illumination Engineering Society of South Africa (IESSA). IESSA represents South Africa internationally and acts as the National Committee of the CIE (Commission International De L'Eclairage). South African experts on various topics in the field of lighting technology serve on CIE international committees responsible for the development of standards for the different aspects of illumination. The 13TH IESSA Conference and ISA-South Africa International SSL Forum & IESSA AGM was held from Sunday 14 May to Tuesday 16 May 2017. The conference closed with a gala dinner hosted by Maritz Electrical, a sponsor of the event.

Maritz Electrical's, Kurt Maritz, says that industry bodies, like IESSA, play a major role in ensuring that the ethics and standards of the industry are upheld. He says, "This brings credibility to the industry and provides assurances to clients that quality and professionalism are delivered, something that we support fully."

Industry bodies, generally founded and funded by businesses operating within the specific industry, act as a regulatory and support body for

members. The bodies participate in public relations activities for the industry but their main role is a collaborative one between companies. They offer a range of services to the industry including conferences, networking events, seminars and workshops.

Maritz applauds the role of industry bodies saying that the regulations they enforce guide the industry and build confidence for all stakeholders. Clients are assured of a set standard of quality and service from members of industry associations. Industry bodies also ensure that all legislation and bylaws are adhered to by members who accept that they are strictly governed by the law and industry regulations.

Maritz says, "We subscribe fully to the guidelines enforced by IESSA and all industry bodies we are members of. It is critical to members that we promote our memberships as clients not only demand the best, but they need assurance they are getting the best. Industry bodies are bale to assure clients that they are dealing with credible, compliant contractors."

Enquiries: info@maritzelectrical.co.za or www.iessa.org.za.

MS: Make sure the products you install or design comply with all specifications and requirements.

Sparks: What is your favourite quote?

MS: "There must be a better and simpler way of doing it."

Sparks: Name three things on your 'bucket list' (things you want to do before you 'kick the bucket').

MS: I want to travel through rural China with my wife and 'walk the rice fields'; see the Aurora Borealis (Northern Lights) and I want to study further.

Behind CMS. Behind Environment.

Lead-Free.

For further information:
Contact your local Crabtree representative
on 0860 SOCKET (762 538) or 011 874 7600
www.crabtree.co.za | info@crabtree.co.za

Extended Guarantees on WEG Products

WEG Please contact your nearest sales office for further details.

Tel: +27 11 723 6000
www.zestweg.com

ZEST WEG Group



INSPECTING AND TESTING ELECTRICAL INSTALLATIONS

MANY electricians tell me that when they complete a task, they do not inspect and test their work because "that's the job of the registered person or the person with the wireman's licence".

According to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), Electrical Installation Regulations, the definition of electrical 'Installation work' means:

1. The installation, extension, modification or repair of an electrical installation;
2. The connection of machinery at the supply terminals of such machinery; or
3. The inspection, testing and verification of electrical installations for the purpose of issuing a certificate of compliance.

It is important to note that it is the electrician – not the registered person or the person with the wireman's licence – who must always test

and inspect an installation, prior to working on it, to ensure the installation is dead and that neither the electrician nor the electrician's assistant is injured. This is the first safety step and it is a legal responsibility.

When the installation work includes the extension, modification or repair of an electrical installation or the connection of machinery at the supply terminals of such machinery, the electrician should conduct at least the following tests, and record the results:

- Voltages.
- Earth loop impedance.
- Prospective short circuit current.
- Elevated voltage on neutral.
- Insulation resistance.
- Earth leakage unit.
- Polarity of points of consumption.

- Switching devices make and break circuits.
- Continuity of bonding conductors.
- Resistance of earth continuity conductors.
- Continuity of ring circuits.

Records should also be kept of the inspection elements, components or installation methods of the installation work that was conducted, such as:

- Is the distribution board correctly located?
- Does the main switch isolate the entire electrical installation?
- Is the DB accessible for maintenance?
- Is the DB installed and secured correctly?
- Is the DB clearly identified?
- Is the DB suitable for the environmental conditions?
- Is the main switch rated/selected correctly?
- Has the main switch been installed correctly?
- Is the main switch accessible and clearly identified, and has a warning label been fitted?
- Is the enclosure in sound condition and does it have the correct ingress protection?
- Are the bus bars correctly rated? Are all conductors correctly rated?
- Are the neutral bar connections correct?
- Is the switchgear rated to withstand prospective short circuit current (PSCC)?
- Are conductive parts properly earthed and all connections secure?
- Are earth connections and components correct and secured?
- Are all openings properly blanked off?
- Are all circuits protected and is the colour coding correct?
- Are all circuits identified and labelled?

It is important that the electrician, who works under the general control of a registered person, records the evidence of the electrical installation on which he or she has worked before the registered person conducts the final inspection and test in order to issue a certificate of compliance.

We need to get back to the basics of verifying compliance with the standards and codes and not relying only on the registered person to identify non-compliance.

ELECTROZONE ELECTRICAL ON THE RISE

In what is a male-dominated industry, Electrozone Electrical, a 100% all-black women-owned company, has found a winning formula and is growing successfully. Established in 2005, Electrozone prides itself on being a Level 1 BEE contributor.

Talking to Sparks Electrical News, director Shahed Essack identified the company's focus on customer service excellence as its operational drive. "We are customer oriented and have a good returns policy in place, but what makes Electrozone outstanding is its competitive pricing structure, which is one of the best in the industry."

At its inception, Electrozone started with two staff members, today it has grown to employ 30. The company prides itself on quality controlled products which, Essack says, are NRCS compliant. In addition to an extensive selection of products, Electrozone Electrical has a wide range of LEDs, which it imports itself.

The company supplies utilities, the industrial automation sector, hardware stores, electrical wholesalers, corporate companies and electrical contractors. "We are committed to excellent customer service at all times," says Essack, "and our 48-hour delivery turn around in Gauteng and surrounding areas further makes us a supplier of choice".

The state of energy supply in South Africa is concerning to both business and individuals. With its customer oriented focus, Electrozone Electrical wants to expand into the solar market by providing energy saving solutions.

Enquiries: +27 (0)11 833 1075

MATRIX

WIRING SYSTEMS

Scan to view our Full Range of Wiring Accessories or visit www.mce.co.za

White Glass Surround

Wooden Surround

Black Glass 4x4 Surround

White Glass 4x4 Surround

White Glass Cluster with White modules

Black Glass Cluster with Titanium modules

Wooden Cluster with Black modules

Stylish white glass, black glass & wooden surrounds now available for the distinguished Matrix Range. The modular design allows for various different combinations. White, Titanium & Black Modules & Surrounds available. Clusters available in white, black, titanium, white glass, black glass & wooden finishes.

Switch to style.

Choose your switches & sockets in-line with the design of your interior finishes.

BROUGHT TO YOU BY THE LEADING DISTRIBUTOR OF ELECTRICAL PRODUCTS

MCE JHB (Head Office)
97 Turffontein Road
Stafford Ext 2
• Tel: +27 (0) 11 683 0641
• Fax: +27 (0) 11 683 1799
• Email: salesjhb@mce.co.za

MCE PTA
129 Fusie Street
Silvertondale Ext 2
• Tel: +27 (0) 12 804 6005
• Fax: +27 (0) 12 804 5478
• Email: salespta@mce.co.za

MCE DBN
Unit 6, 2 Corobrick Rd,
Riverhorse Valley
• Tel: +27 (0) 31 569 4846
• Fax: +27 (0) 31 569 4811
• Email: salesdbn@mce.co.za

THIS IS NOT A DOCUMENT YOU CAN ALWAYS TRUST



A number of electrical products used by consumers and installed in buildings for use by occupants are subject to compulsory specifications in order to protect people. These requirements also have the effect of protecting assets.

The Letter of Authority (LOA), issued in good faith by the National Regulator for Compulsory Specifications (NRCs) on the strength of a product's test report by an accredited laboratory, is usually produced by distributors as proof of compliance with regulations and their safety requirements.

For one or more of the following reasons, and possibly others, this is not always the case:

1. Unscrupulous manufacturers and distributors submit specially-prepared, "**golden samples**", solely for the purpose of obtaining the LOA.
2. Manufacturers' **quality-control** processes may be, or may become, deficient.
3. Changes in a product's internal **design**, or **materials** and **components** used, may render it non-compliant, whilst its appearance remains the same and compatible with its description on the LOA.
4. **Errors and oversights** by the testing laboratory, whose report is the basis for the LOA.
5. Fraudulent test reports and Letters of Authority produced by unscrupulous suppliers *

This reality and, amongst other reasons, the regulator's inability to conduct **effective surveillance** of the market to monitor compliance, results in the proliferation of sub-standard electrical products.

What to do? See the SAFEhouse website for a Guide to the Regulation of Electrical Products.

*Resellers of products may accept photocopies of LOAs as proof of compliance and not bother to validate them. Validation is difficult if not impossible.

SAFEhouse members have signed a code of conduct: Your assurance of commitment to offer only safe electrical products.

SAFEhouse membership is suppliers' assurance to customers of responsible behaviour and of customers' safety as a priority. SAFEhouse members regulate themselves. SAFEhouse is primarily a communications association that informs customers of safety requirements and occurrences of non-compliance with such requirements.



The SAFEhouse Association is a non-profit, industry organisation committed to the fight against sub-standard, unsafe electrical products.

For more information contact:

Barry O'Leary: Tel: 011 396 8251 | Email: barry.oleary@safehousesa.co.za

Pierre Nothard: Tel: 011 396 8140 | Email: pierren@safehousesa.co.za

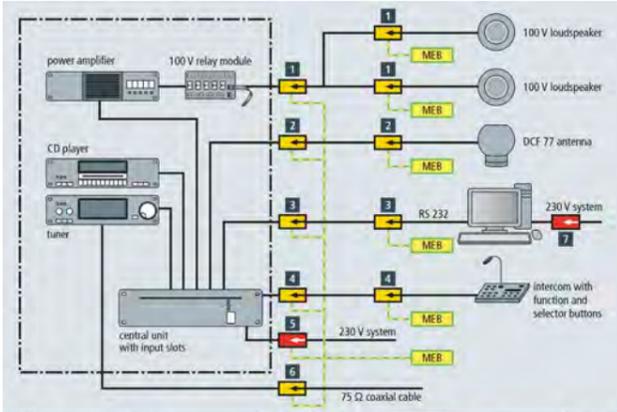
www.safehousesa.co.za



SHOP ELECTRICAL ONLINE

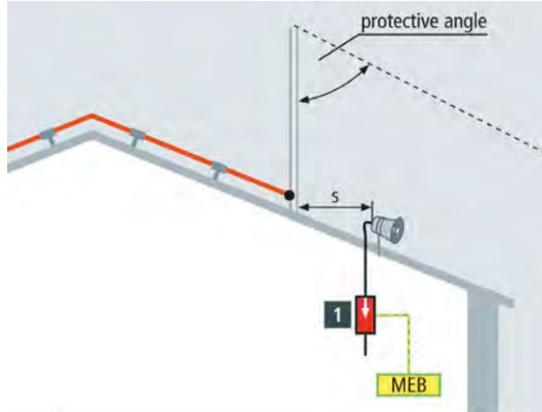


FREE SHIPPING
ON QUALIFYING
ORDERS OVER
R500



No.	Surge protective device	Part No.	No.	Surge protective device	Part No.
	DR M 2P 150 (current > 1 A-25 A) or	953 204	4	BXT ML2 BD HF5 S	920 271
1	BXT ML4 BE 180 (current < 1 A)	920 327		+ BXT BAS	920 300
	+ BXT BAS	920 300	5	DR M 2 P 255	953 200
2	DGA G BNC	929 042	6	DGA FF TV	909 703
			7	DPRO 230	909 230
3	FS 9E HS 12	924 019			

FIGURE 98.1



No.	Surge protective device	Part No.
1	DR M 2P 150 (current > 1 A-25 A) or	953 204
	BXT ML4 BE 180 (current < 1 A)	920 327
	+ BXT BAS	920 300

FIGURE 98.2



No.	Surge protective device	Part No.
1	DR M 2P 150 (current > 1 A-25 A) or	953 204
	BXT ML4 BE 180 (current < 1 A)	920 327
	+ BXT BAS	920 300

FIGURE 98.3

PUBLIC ADDRESS SYSTEMS REQUIRE SURGE PROTECTION

PUBLIC address systems are prone to lightning strikes and require adequate lightning and surge protection to ensure extended use.

Telecommunication lines with diameters of 0.6 mm or 0.8 mm can be used in public address systems as signal is modulated onto a carrier voltage (50 V, 70 V and 100 V) and reaches the loudspeaker via the transmitter. The transmitter then transforms the lower impedance of a loudspeaker to a higher value that reduces the current.

There are different kinds of loudspeakers: Flush and wall loudspeakers typically have a rated power of between 6 and 30 W; column loudspeakers between 20 and 100 W; and horn loudspeakers between 10 and 60 W. Modular amplifiers have a rated power of between 100 and 600 W (in some cases even higher).

Loudspeakers with different power ratings can be jointly used in a line or group. The minimum power of the amplifier is usually the sum of the loudspeaker power ratings, but at the transmitters, it is the sum of the selected power ratings.

Subsection 7.2.1 of the EN 50174 - 2 standard describes protection from lightning strikes and induced surges, while it compares the risk of damage with the risk that is accepted by the operator. If this risk assessment reveals that surge protection measures are required, surge protective devices must be installed for the relevant installations and systems in need of protection.

Large-scale public address systems feature a 19" design (Figure 98.1) and are frequently located in close proximity to a permanently manned workstation. In such cases, the relevant length of the connecting cable to the PC or intercom decides whether the surge arrestors shown (4+5) must be installed. However, if this length exceeds 5 m, surge protective devices are required.

To determine the dimension of surge arrestors for loudspeaker lines (1+2), the maximum current I in the relevant branch must be ascertained by means of the ratio $I = P/U$; where P is the power of the amplifier or loudspeaker (group) and U is the carrier voltage.

All earth connections of the surge arrestors in the vicinity of the public address system can be connected to a nearby common potential point. If exterior loudspeakers are located on the roof of the building, they can be damaged by indirect lightning effect (inductive/ capacitive coupling) in case of systems with external lightning protection system (Figure 98.2) and without external lightning protection system (Figure 98.3). If the system is equipped with an external lightning protection system, the exterior loudspeaker is reliably protected from direct lightning strikes since it is located in the protected volume of an air-termination system.

DEHN offers innovative products and solutions as well as comprehensive services in the field of surge protection, lightning protection and safety equipment.



Keep the systems running.

OVR QuickSafe surge protection.

With the new OVR QuickSafe (QS) range ABB offers a new generation of surge protective devices (SPD) to protect residential and industrial buildings against transient voltages. Thanks to the innovative technology of this new range of OVR no dedicated back-up protection is required for selected applications. QS technology increases the rated current in the power system so that the main upstream protection up to 125A MCB (B or C characteristics) or 160A fuse (gG or gL) can be applied. Compliant with the IEC/EN 61643-11 standard, the OVR QS range is the ideal choice to simplify maintenance and increase the safety of installations. abb.com/lowvoltage



Enquiries: +27 (0)11 704 1487



PORTABLE OIL TEST SETS



MEGGER'S automatic portable oil test sets perform accurate breakdown voltage tests on mineral, ester and silicon insulating liquids. Moulded test vessels give repeatable results in the field and laboratory with lock-in precision electrode gap setting adjustment wheels. The transparent, shielded lid is a key feature enabling users to see what is happening within the test chamber.

Megger portable 60 kV and 80 kV oil test sets are the lightest on the market, ranging from 16 kg to 23.5 kg depending on model and configuration. They come complete with optional carry bag and transport case. The carry bag has pouches for electrode accessory pack, leads, quick user guide, paper roll, etc.

The units are mains powered with optional lead acid or NiMH batteries. In addition, an internal 12 V dc charger and vehicle adaptor cable is standard with either battery option.

Test standards are preloaded in the instrument and new versions can be uploaded via USB ash drive. Both portable instruments support the creation of user defined custom tests. Test results are identified either by a serial number or asset ID and are time and date stamped.

An optional internal printer provides hard copy results. Ink based printouts ensure durability at all temperatures. USB interfaces (x3) support PC connection, USB ash drive and external USB printer.

User safety is paramount and Megger has designed independent and dual redundant high voltage cut-off circuitry to ensure safety. During a test the operator can terminate by pressing any button on the keyboard to remove high voltage immediately and abort the test. The transparent lid provides ample visibility within the chamber yet is protected and electrically shielded by a screen with multiple links to instrument ground.

Features and benefits include test voltages up to 60 kV or 80 kV; lock in precision oil vessel - lockable gap setting; flat electrode gap gauges that will not damage electrodes; automatic oil temperature measurement; QVGA colour display with backlight; easy clean chamber with oil drain; safe operation with dual redundant micro-switch HV cut off, zero volt touch bar and screened lid; transparent lid results in highly visible test chamber and vessel and an intuitive user interface supports fully automatic operation with preloaded international test standards plus user configurable test sequences.

Enquiries: www.megger.com or mesales@megger.com

NEW PLAYER ENTERS SA WATER-HEATING INDUSTRY



Hot water costs can account for 40-60% of users' total electricity bill. HydraTherm offers solutions for the commercial, industrial and residential markets.

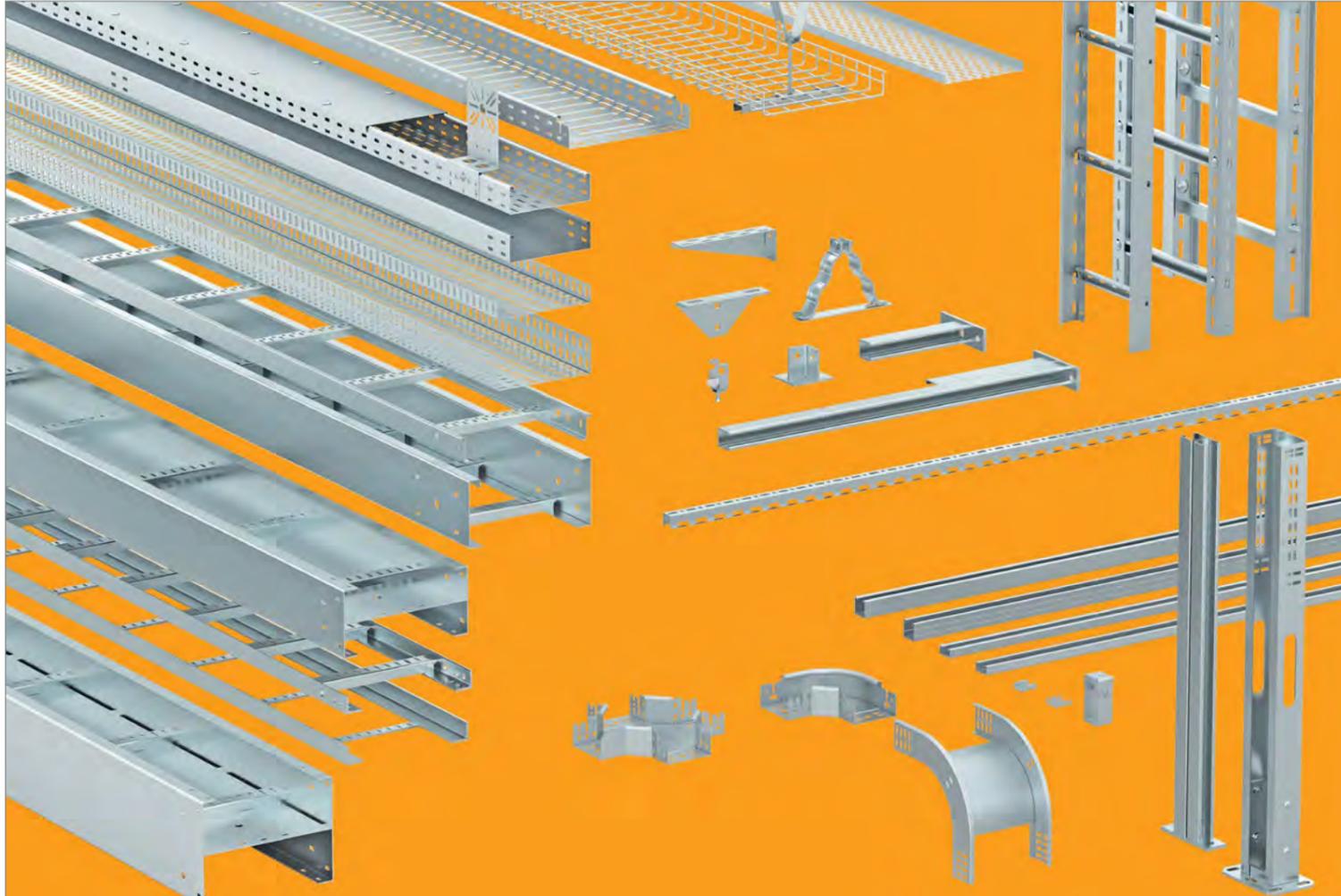
Co-Founder Michael Alton says that the company's expertise lies in the design and specification of centralised hot-water plants for any project. "We offer solutions for clients from large commercial enterprises right through to domestic home owners. We've used that expertise to develop our own brand of water-heating technology under the HydraTherm brand, and we can confidently promise the solutions the market is looking for," he says.

The HydraTherm range currently includes integrated heat pumps and split hot water heat pumps, with gas water heaters and solar collectors in the final stages of development and also due for launch this year. The integrated heat pump is an energy-saving, cost-efficient solution for private homes, while the split heat pump offers a solution for the industry at a highly competitive level of investment where payback periods are minimised and returns are maximised, says Alton.

The use of EVI technology combined with highly efficient air-to-water heat exchangers, ensures improved efficiencies in a wide range of ambient temperature conditions and nominal coefficient performance figures of up to 4.5 to 1. For residential projects, the heat pump can save end users as much as 70% of their hot water costs.

The company offers consultation, after-sales service and revolutionary cloud support.

Enquiries: www.hydratherm.co.za.



Cable support systems for the perfect routing of cables

As a professional, you appreciate professional materials and easy handling. The cable support systems from O-line are tried and tested and fulfil the highest demands of an electrical installation.

Would you like to find out more? Refer to our website or contact us directly.

For further information please contact our Customer Service on:
Phone: +27(0) 11 378-3700

www.o-line.com

OBO Bettermann Group

O-line



WORKING KNOWLEDGE BY TERRY MACKENZIE HOY

HOW TO TEST A GENERATOR

For a generator rated at more than 100 kVA you have to synchronise it with the mains power supply and load it. You must locate the generator governor. In older generators, this will be a mechanical device (often made by Woodward), which has a knob that controls the speed of the generator. Start it and see if you can control the speed using the speed control – you don't have to vary it much, a few rpm/Hz will be fine. It's a good idea to attach a meter reading Hz to the electrical output of the generator so you can see that you're actually changing the speed.

In modern generators the governor will be electronic and the speed control will be a trim potentiometer inside the governor box. Having determined you can control the generator speed, create the following set up: three sets of light bulbs, each set being two 220 V incandescent bulbs in series; a circuit breaker rated at the output of the generator; three fuses each rated at the output of the generator. Wire the light bulbs across each phase of the circuit breaker, which we'll call the 'synchronising circuit breaker'.

Wire the output of the generator via the fuses to the input of the circuit breaker. Connect the output of the circuit breaker to the mains supply via a circuit breaker or an isolator. Make sure all the circuit breakers are open. Close the circuit breaker or isolator to the mains supply. Start the generator. You will see that the light bulbs go on and off, dim up/dim down. Trim the generator speed until the lights go on and off very slowly. At the instant that the lights are off, close the synchronising circuit breaker. The generator should now be synchronised.

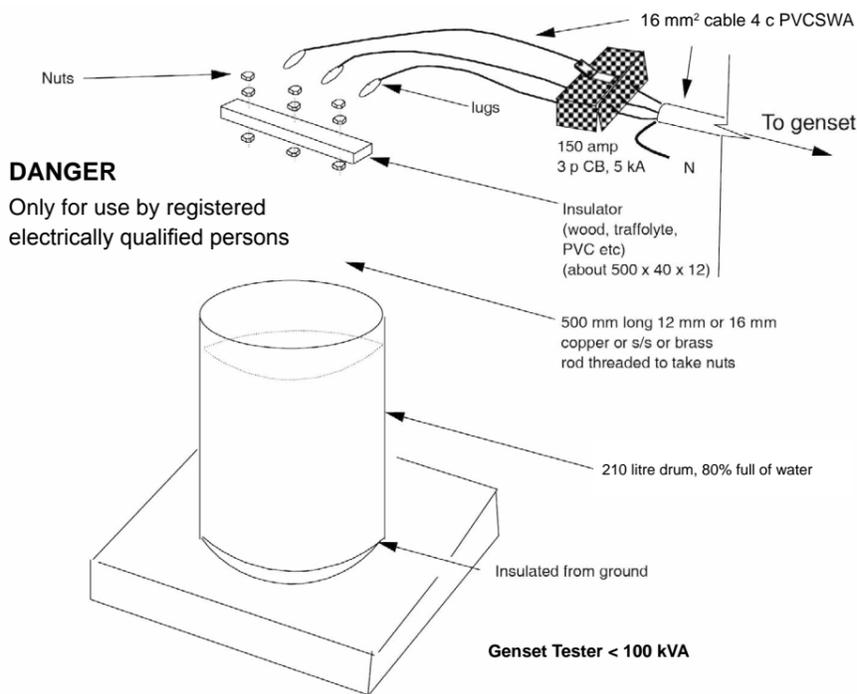
Using the governor try and raise engine speed. The speed will not increase but the generator will start delivering the load to the mains. Keep adjusting the engine speed until full load is reached. For a new

generator, you will probably find that the exhaust lagging starts burning off, giving clouds of blue smoke, but don't worry, it's normal. After the engine has run and the oil pressure and temperature are stable, switch off the synchronising breaker at full load. The engine speed should increase and then settle down to idle. If the over-speed trip operates it should be reset.

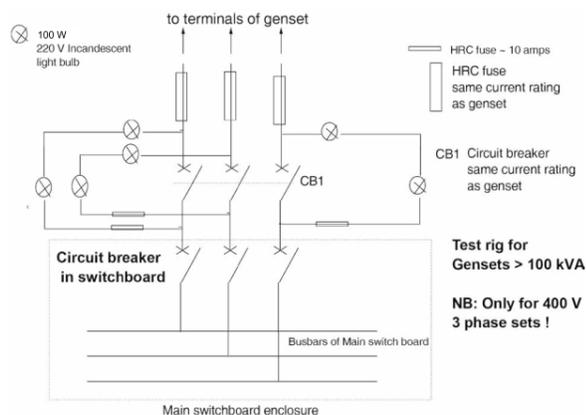
If the generator is rated at 100 kVA or less, obtain the following: 210 litre steel drum with the lid removed, 80% full of tap water, mounted on a wooden pallet; 150 amp three-phase circuit breaker, 5 kA; wood strip 500 x 40 x 12 with three holes drilled in it, one at centre others at 200 mm from centre; three 500 mm long metal threaded rods; three 16 mm insulated fly leads. Bolt the threaded rods into the wood so that the tops of the rods are about 20 mm above the wood. Connect the top of each rod on a fly lead and on the output of each phase of the circuit breaker. Connect the generator output to the circuit breaker input and immerse the rods in the water, resting the wood strip on the sides of the drum so that the rods can dangle in the water. Start the generator. Close the circuit breaker. Measure the current in the fly leads – it should be low.

Now add salt to the water, one teaspoon at a time. The generator will gradually load up. If it reaches full load, let it run for a few minutes, stopping when the water boils. If the generator shuts down before reaching full load then it is either not being cooled enough or it has a governor problem. If the generator voltage drops to low load and the voltage collapses, the automatic voltage regulator is not working.

Take care at all times! Stay away from the drum ... and yes, it does work. I've tested many generators like this. Just be cautious and use clean tap water.



DANGER
Only for use by registered electrically qualified persons



MAGNET RECEIVES SUPPLIER AWARD

Magnet Electrical Supplies Durban has been presented by Toyota SA Motors with a 'Supplier Award for Achievement' in the materials and facilities (M & F) consumable suppliers category for 2016. "This coveted award, which is presented annually in recognition of service excellence and integrity, is a tribute the Magnet team is very proud of," says Kumaran Naidoo, Durban branch manager, Magnet Electrical Supplies. "We have achieved this prestigious award with the support of all Magnet divisions in Durban, particularly the internal sales team and projects division.

Magnet Electrical Supplies, which specialises in the supply, implementation and 24-hour support of electrical equipment, has implemented sustainable energy saving solutions at the Toyota Prospecion plant.

Enquiries: +27 (0)31 274 1050

NEW RANGE OF CURRENT AND VOLTAGE SENSING CONTACTORS

GIGAVAC has released its new range of current and voltage sensing contactors. The additions can help to reduce components in monitoring and control systems by integrating the sensing controls within the actual contactors. The voltage and current sensing contactor range includes:

- 350 A and 600 A contactors with over current sensing and automatic trip function. Trip current is settable via an external programming resistor.
- 350 A and 600 A contactors with current sensing outputs. Current proportional to voltage output of 0-5 V or 0-10 V.

- 350A and 600A contactors with low voltage disconnect and auto disconnect function, optimised for vehicles with dual battery (12 V/24 V) systems. The GIGAVAC EPIC® (Extended Performance Impervious Ceramic) sealed ac/dc contactors can be used in any harsh environment, including under water and at temperatures from -55°C to 85°C and can be mounted in any position. They are the preferred contactor (sometimes called a relay or solenoid) for heavy trucks and equipment, buses, emergency vehicles, electric

vehicles, hybrid vehicles, boats, light rail, mining, oil refineries, construction equipment, military vehicles, power management systems for battery charging, fuel cells, battery backup, solar, wind and wave power systems and factory automation where long life and high reliability are needed.

GIGAVAC is represented in South Africa by Denver Technical Products.

Enquiries: +27 (0)11 626 2023

PULSEPOINT II WORKS IN A WIDE RANGE OF APPLICATIONS

PulsePoint II uses vibrating element technology to detect the presence or absence of bulk solid materials. The PulsePoint II can work in a wide range of applications, including those with changing materials, varying dielectric constant and very low density. There are six selectable sensitivity settings to match the application. The non-polarised power supply, 24 V to 240 Vac/dc permits connection without regard to polarity. Measuring solid levels under a liquid surface is possible only with PulsePoint II. The unit comes with an LED indicator: green for power on and red for alarm. A self-test function with a magnetic FOB ensures plant functionality. The unit is available from DRH Components, a specialist electric component supplier to the industry with a focus on the control and protection of electric motors.



Enquiries: +27 (0)74 331 0005

<p>ROTO-BIN-DICATOR Technology: Paddlewheel Applications: Universal, dry bulk point level detection with advanced features and diagnostics</p>	<p>GUIDED WAVE Technology: Guided Wave Radar Applications: Measures bulk solids or liquids, radar signal is guided along steel cable</p>
<p>PULSE POINT II Technology: Vibrating Fork Applications: Wide range of dry bulk materials, liquid/solid interface</p>	<p>CAP LEVEL Technology: Capacitance Applications: Measures bulk solids or liquids</p>
<p>DIAPHRAGM-DICATOR Technology: Diaphragm Switch Applications: Detection of free flowing dry bulk materials</p>	<p>MP SERIES RADAR Technology: Through-Air Radar Applications: Non-contact, reliable in difficult environments</p>

P O Box 1203 | Hillcrest | 3650
Tel 031 765-4748 | sales@drhcomponents.co.za
www.drhcomponents.co.za

- ✓ Product Support
- ✓ Application expertise
- ✓ Stock holding



REGISTERING AS A MASTER INSTALLATION ELECTRICIAN

In the two preceding installments, we looked at the registration requirements for 'accredited persons' namely, the electrical tester for single phase and that of the installation electrician. In this issue, we'll have a look at the registration requirements for the master installation electrician (MIE).

One big misconception is that the master installation electrician is the only person responsible for the so-called hazardous areas – the classification thereof and/or the associated electrical installations.

The above is sort-of, only halfway true. Actually, the master installation electrician is responsible for ensuring the electrical equipment used, and the electrical installation or the electrical supply to the explosion protected equipment, complies with a standard. These standards (Specialised Electrical Installation Codes of Practice) include *inter alia* SANS 10108, SANS 10086, the SANS IEC 60079 series of documents, SANS 10142 and others. The master installation electrician needs to inspect the equipment and installation and, after satisfactory consideration that everything complies, issues a supplementary certificate of compliance. Yes, that is correct, a *supplementary* certificate of compliance. The electrical tester for single phase or installation electrician (or the MIE for that matter) issues a certificate of compliance for the electrical installation portion of the project and the master installation electrician issues the supplementary certificate of compliance for the balance of the installation and works, as required in the plethora of codes mentioned earlier.

Now you may ask, "But, where's the other half you talked about?" The 'other half' refers to the classification or zoning of the hazardous area. I will try to explain in simplistic terms – only to illustrate a point and please, I am by no means advocating that what I am about to tell you is definitive. So, during the zoning or classification process, cognisance is taken of a whole lot of factors that can contribute to creating a very dangerous, hazardous and/or explosive atmosphere that will ignite by the introduction of an electrical or static electrical spark, for instance.

To create such an explosive atmosphere, at least three things need; to be present in exactly the correct quantities, namely; some sort of fuel (a flammable liquid, gas or dust), oxygen (the air that we breathe) and a source of ignition (an open flame, electrical or static electrical spark, etc.) Now to mitigate any possible explosion, we need to upset this perfect mixture by removing or limiting any of the three components that can contribute to the creation of the explosive condition. For example, you can install equipment inside an enclosure that cannot propagate a spark, like the so-called 'flame proof' or ExD enclosures. You can use extraction or air movement to dilute the gas and air mixture to render it non-explosive. And last but not least, you can limit the electrical energy in the area to such a level that a spark cannot be generated, not even if a dead short occurs. In the above, it is clear that there are few if any electricians out there that can simultaneously call themselves a mechanical ventilation,

chemical compositions of flammable liquids and/or energy limiting technologies expert. So, to classify an area is a team effort. The master installation electrician being a very important member of this team.

Let's have a look what the Electrical Installation Regulations 2009 has to say about what you require to be able to request registration as master installation electrician.

The Electrical Installation Regulations 2009, Regulation 11 reads as follows:

Regulation 11: Application for registration as a registered person

(1) An application for registration as a registered person shall be made to the chief inspector in the form of Annexure 5 together with the registration fee prescribed by Regulation 14.

(2) Any natural person who satisfies the chief inspector that he or she –
(a) has sufficient knowledge of the rules applicable to electrical installations in the category for which the application is being made; and
(b) has appropriate practical experience in respect of the electrical installation, verification and certification of the construction, testing and inspection of the type of electrical installation for which application is being made, shall be registered as an electrical tester for single phase, an installation electrician, or a master installation electrician, as the case may be.

(3) The chief inspector shall furnish a registered person with the appropriate certificate of registration and enter such registration into the national database.

(4) A registered person shall on request produce his or her certificate of registration to an inspector, an approved inspection authority for electrical installations, a supplier or any person to whom he or she intends to issue a certificate of compliance.

(5) A registered person shall inform the chief inspector of any changes affecting his or her registration within 14 days after such change.

Now let us interpret the requirement stated in Regulation 11 for a:

MASTER INSTALLATION ELECTRICIAN

OPTION 1

3.1 A candidate must:

3.1.1 Minimum Integrated Practical and Theoretical Qualification

- (a) Be registered as an Installation Electrician for two years.
- (b) Submit proof of one-year practical experience in hazardous locations.
- (c) Achieved a National Certificate in Electrical Engineering: NQF level 5 issued by the EWSETA.
- (d) Submit documentary proof of successfully completed unit standards on inspection, testing and certification of specialised electrical installations in hazardous locations as prescribed by the EWSETA.

3.1.2 Knowledge of Statutory Requirements

Submit proof of knowledge on the legislation and relevant health and safety standards applicable to electrical installations by having passed the subject Specialised Electrical Installation Codes as administered by

the Department of Education.

OPTION 2

3.2 A candidate must:

3.2.1 Practical Qualification

- (a) Be registered as an Installation Electrician for two years.
- (b) Submit proof of one-year practical experience in hazardous locations.
- (c) Submit documentary proof of successfully completed unit standards on inspection, testing and certification of specialised electrical installations in hazardous locations as prescribed by the EWSETA.

3.2.2 Minimum Theoretical Qualification

Submit a National N6 Certificate with one of the following subjects:

- Electrotechnics
- Fault Finding and Protection Devices
- Industrial Electronics

3.2.3 Knowledge of Statutory Requirements

Proof of knowledge of the legislation and relevant health and safety standards applicable to electrical installations by having passed the subject Specialised Electrical Installation Codes as administered by the Department of Education.

OPTION 3

3.3 A candidate must:

3.3.1 Practical Qualification

- (a) Be registered as an Installation Electrician for two years.
- (b) Submit proof of one-year practical experience in hazardous locations.
- (c) Submit documentary proof of successfully completed unit standards on inspection, testing and certification of specialised electrical installations in hazardous locations as prescribed by the EWSETA.

3.3.2 Minimum Theoretical Qualification

Submit a Diploma or Degree in Electrical Engineering:

- T3 National Diploma (Heavy Current)
- S4 Diploma (Power Engineering)
- B-Tech Degree or Higher National Diploma
- BSc or B Degree
- Government Certificate of Competency (Factories or Mines)

3.3.3 Knowledge of Statutory Requirements

Proof of knowledge of the legislation and relevant health and safety standards applicable to electrical installations by having passed the subject Specialised Electrical Installation Codes as administered by the Department of Education.

And there you have it. Your registration as a 'master' is done and dusted. In a future installment, we will look at the registration requirements for Electrical Contractors.

Till next time.

NON-INDUCTIVE BULK CERAMIC RESISTORS

KANTHAL offers a range of non-inductive bulk ceramic resistors, which are problem solvers for impulse generators, motor drive circuits, snubber circuits, capacitor discharging, protection of silicon rectifiers, high-frequency circuits, high voltage circuits, x-ray equipment, RF dummy loads, capacitor current limiting and parasitic oscillation protection.

Kanthal Global non-inductive resistors are supplied in a variety of size wattages. Termination options may be axial, radial lugs or anti-corona rings and pulse power terminals are also available.

The resistors are supplied in three versions, with power ranges up to 1 kW and voltage ranges up to 165 kV.

- Type AS – optimised for absorbing high amounts of energy and for non-inductive properties at high voltage.
- Type SP – for high ac power handling capacity at power frequencies or RF frequencies.
- Type A – for high power non-inductive when high resistance is required.

Enquiries: +27 (0)11 626 2023



SIEMENS SIGNS AGREEMENTS WITH AFRICAN COUNTRIES

Siemens will work more closely with Uganda and Sudan in the areas of power supply, industry, transportation and healthcare. The African states signed the corresponding Memoranda of Understanding (MoU) at the World Economic Forum 2017 in Durban.

"Africa's economies are gaining ground and can develop their full potential with the right partner. Siemens wants to support their sustainable development – with solutions and projects in Africa, for Africa. The agreements with our African partners are important steps along this path," said Joe Kaeser, President, and CEO of Siemens AG. "Our goal is to double our order intake in Africa to more than €3 billion by the year 2020.

Under these agreements, Siemens and its partners will develop solutions in the areas of power supply, transportation, industry, and healthcare. Another key point in the agreements relates

to continuing training programmes for various technical fields in order to create a pool of well-trained local workers. Furthermore, Siemens is joining the "Make IT Alliance" of the German Federal Ministry of Economic Cooperation and Development to promote start-ups and technology companies across the continent. The agreement was signed in the presence of Guenter Nooke, German Chancellor's Personal Representative for Africa in the ministry.

African countries need infrastructure and industrial projects that generate sustained income streams to fully exploit their own economic potential. New financing concepts and long-term investment guidelines that will remain in effect for 30 years will create a stable investment climate for international investors and help to implement planned infrastructure projects.

Enquiries: www.siemens.com

REDUNDANCY MODULES FEATURING PUSH-IN CONNECTIONS



The new Trio Diode redundancy modules with push-in connections from Phoenix Contact decouple power supplies connected in parallel and increase system availability.

Because the diodes provide for reliable decoupling, a short circuit at the output of one of the power supplies or in a feeder cable to the power supply has no impact on the load. As a result, the modules ensure enhanced auxiliary power supply availability. They are compatible with the Trio Power power supply systems and can be installed quickly and easily, owing to push-in connection technology. The new diode modules are highly versatile, owing to their extended input voltage range (10–30 V dc), high resistance to shock and vibration, and temperature range of -25°C to +70°C.

Enquiries: www.phoenixcontact.com



Schneider Electric Partner Portal for Electricians

Growing your business has never been easier!

Don't miss this fantastic opportunity to register for Schneider Electric's all-new Partner Portal!

Based on your business needs we have launched a new redesigned digital platform packed with loads of new tools, resources and programs to grow and manage your business.

When you engage in a unique and specialised relationship with Schneider Electric, your business benefits from:

- new business opportunities and networks
- flexible business management from mobile devices
- simplified project management
- exclusive membership programs
- super-fast access to digital platform
- enhanced support capabilities

See what the new partner portal can do for your business today!

Explore now!



www.schneider-electric.co.za

Life Is On

Schneider
Electric



MANUFACTURERS

ABB South Africa
Aberdare Cables
ACTOM Protection & Control
Allbro
Alvern Cables
CBI-electric: low voltage
Crabtree Electrical Accessories
HellermannTyton
JB Switchgear Solutions
Legrand
Radiant Group
Sabelco
Schneider Electric
Walroflex

DISTRIBUTOR

ACDC Dynamics
ACTOM Electrical Products
Alvern Cables
Atlas Group
ARB Electrical Wholesalers
Bellco
Brady SA
Comtest Distribution
Crabtree Electrical Accessories
Denver Technical Products
Electrahertz
HellermannTyton
Electrozone Electrical
JDL Electric
Major Tech
MCE Electric
Phambili Interface
Radiant Group
Schneider Electric
Stone-Stamcor
Surgetek
Voltex
Voltex Lighting
Voltex LSis
Voltex MV/LV Solutions
Waco
Walroflex
Zest WEG Group

CONTACT

ABB South Africa
Customer contact centre
Aberdare Cables
Jyoshtie Dhunes
ACDC Dynamics
Sales
ACTOM Electrical Products
Isabel Magalhaes
ACTOM Protection & Control
Faisal Hoosen
Allbro
Ryan Allan
Alvern Cables
Stephen Liasides
ARB Electrical Wholesalers
Sales
Atlas Group
Annie Storrar
Bellco
Fred Wilson
Brady SA
Sales
CBI-electric: low voltage
Jaco Viljoen
Comtest Distribution
Leanne Cole
Crabtree Electrical Accessories
Sales
Denver Technical Products
Mervyn Stocks
Electrahertz
Pta-Frank Proude/Jhb - Peet Lourens
Electrozone Electrical
Shahed Essack
HellermannTyton
Ingrid Nicolaus
JB Switchgear Solutions
Ally Sulayman
JDL Electric: Ashveer Lalla
Legrand: Johan Bosch
Magnet Electrical Supplies
Kevin Govender

CONTACT

Major Tech
Werner Grobbelaar
MCE Electric
Sales
Radiant Group
Alfred Weldon
Sabelco
Marc Moreau
Schneider Electric
Sales
Stone-Stamcor
Mark Talbot
Surgetek
Sikhumbuzo Ngwenya
Voltex
Hugh Ward
Voltex Lighting
Marc Rudman
Voltex LSis
Gary Paterson
Voltex MV/LV Solutions
Sales
Waco Industries
Jaco Coetzee
Walroflex
Peter Willers
Zest WEG Group
Sales

METERS

ABB South Africa
Full range of meters
ACTOM Electrical Products
Single-phase direct kWh meters, single- and three-phase; Ct operated kWh meter; single-phase kWh meter with cyclometer; single-phase meter with LCD display and polycarbonate cover
ACTOM Protection & Control
Three-phase and single-phase electromechanical and electronic meters; Three-phase and single-phase electromechanical and electronic meters; measurement centres; three-phase programmable electronic meters
Allbro
Meter boxes
ARB Electrical Wholesalers
Full range of meters
Atlas Group
Full range of meters
Bellco
Full range of meters
CBI-electric: low voltage
Rail mount meters and rotating disc meters
Comtest Distribution
Multimeters; clamp meters; RMS meters; wireless meters; RMS ac voltage meters; RMS dc voltage meters; high performance industrial logging meters; remote display meters; IP 67 meters; IS meters; automotive meter; digital precision meter; 5.5 digit multimeter; wireless ac clamp meter; wireless flexi ac current clamp meter; wireless ac/dc current clamp meter; true RMS clamp meter; ac/dc clamp meter; leakage clamp meter; voltage/continuity tester; electrical tester; voltage alert pens; phase rotation meter; fluorescent light tester
Denver Technical Products
Range of meters
Electrahertz
Full range of meters
Electrozone Electrical
Full range of meters
HellermannTyton
Clamp meter-TBM197:CAT IV, VFD (variable frequency drivers); power analyser-T60 (checks installation safety in compliance with standards and carries out analysis of single-phase/three-phase power and energy consumption)
Impact Power Innovations
Full range of power quality analyser meters
Inviretel
Full range of prepaid meters
JDL Electric
Full range of meters
Legrand
Analogue and digital DIN rail-mounted meters
Magnet Electrical Supplies
Full range of meters
Major Tech
Compact power analysers, power quality analysers, current loggers, current and voltage loggers, leakage loggers; full range of professional ac and ac/dc clamp meters, compact ac and ac/dc clamp meters
MCE Electric
Onesto kWh meters; MCE ammeters; MCE voltmeters; MCD max demand meters; MCE running hour meters
Radiant Group
Range of meters

METERS

Surgetek
Full range of meters
Voltex
Full range of meters
Voltex LSis
Full range of meters
Waco
Full range of meters

CABLING

Aberdare Cables
Complete range of electric cable
Allbro
Junction boxes
ARB Electrical Wholesalers
Full range of cabling
Atlas Group
Full range of cables
Bellco
Full range of cables
Brady SA
Cable labelling
Comtest Distribution
Cable locator
Electrahertz
Full range of cabling
Electrozone Electrical
Full range of cabling
HellermannTyton
PV cable: TUV; UI; Dual
JDL Electric
Full range of cabling
Legrand
Full range of cabling
Magnet Electrical Supplies
Full range of cabling
Radiant Group
SOEW - South Ocean Electrical Wiring
Surgetek
Full range of cables
Voltex
Full range of cables
Walroflex
Automotive low voltage cables 0.35 mm²-6 mm²; battery cables 8 mm² to 95 mm²; plain Cu and tinned Cu in single- and multi-wire format; blasting cables; submersible pump cables; welding cable (double insulated); HRQ cables; ripcord; trailing cables, panel flex and pigtails (superfine Cu wire)

SWITCHGEAR

ABB South Africa
Full range of switchgear
ACTOM Electrical Products
SBV indoor equipment, SBV3+3E, SBV4+4E, SBV5+5E, SBV-C, SBV-24; vacuum intern pres, ring main units and extensible switchgear; compact MV switchgear
ACTOM Protection & Control
LV municipal electricity distribution; metering and distribution enclosures
Allbro
Insulators and busbar supports
ARB Electrical Wholesalers
Full range of switchgear
Atlas Group
Full range of switchgear
Bellco
Full range of switchgear
CBI-electric: low voltage
Full range of lv moulded case circuit breakers
Electrahertz
Full range of switchgear
Electrozone Electrical
Full range of switchgear solutions
JB Switchgear Solutions
Full range of switchgear solutions
JDL Electric
Full range of switchgear
Legrand
Miniature circuit breakers from 1 - 125 A; b-, c- and d-curve moulded case circuit breakers from 16 - 1 600 A; air circuit breakers from 800 - 6 300 A
Magnet Electrical Supplies
Full range of switchgear
Major Tech
Full range of MCBs, isolators and earth leakage protection
MCE Electric
MCE ac contactors; isolators; overloads
Sabelco
Advanced LV electrical assemblies
Voltex
Full range of switchgear
Voltex LSis
Full range of switchgear

SWITCHGEAR

Voltex MV/LV Solutions
Full range of switchgear
Zest WEG Group
Full range of switchgear

LOAD MANAGEMENT

ABB South Africa
Full range of load management solutions
ACDC Dynamics
Full range of load management solutions
ACTOM Protection & Control
Load shedding relays
CBI-electric: low voltage
Energy control units (electronic) and standard touch screen electronic time switch
Comtest Distribution
Visual thermometers; thermal imagers; battery testers; vibration meters; power quality clamp meters; single-phase power quality analysers; single-phase voltage quality recorders; three-phase power quality analysers; electrical energy loggers; power loggers; power quality loggers; power recorders; power quality recorders
Electrahertz
Full range of load management solutions
Electrozone Electrical
Full range of load management solutions
HellermannTyton
Seven day digital geyser timer- TDDGT: din rail mounting, 16 programmable settings; geyser timer load controller- TGTL: internal relay, six pre-set times with peak demand lock-out
JDL Electric
Full range of load management solutions
Magnet Electrical Supplies
Full range of load management solutions
Major Tech
Comprehensive range of digital and analogue timer load controllers
MCE Electric
Onesto load shed relays
Voltex
Full range of load management solutions

LABELLING

ABB South Africa
Full range of labelling
Atlas Group
Full range of labelling
Bellco
Full range of labelling
Brady SA
Full range of labelling
Electrahertz
Full range of labelling
Electrozone Electrical
Full range of labelling
HellermannTyton
Photovoltaic system labelling: UV stable, adheres to NEC 2014 Article 690 and UL969
JDL Electric
Full range of labelling
Phambili Interface
Full range of labelling
Voltex
Full range of labelling

ENERGY BILLING

ABB South Africa
Full range of energy billing solutions
ACDC Dynamics
Full range of energy billing solutions
Atlas Group
Full range of energy billing solutions
Bellco
Full range of energy billing solutions
Comtest Distribution
Visual thermometers; thermal imagers; battery testers; vibration meters; power quality clamp meters; single-phase power quality analysers; single-phase voltage quality recorders; three-phase power quality analysers; electrical energy loggers; power loggers; power quality loggers; power recorders; power quality recorders
Eaton Electric SA
Full range of energy billing solutions
Inviretel
Full range of energy billing solutions
JDL Electric
Full range of energy billing solutions
Magnet Electrical Supplies
Full range of energy billing solutions
Radiant Group
Range of energy billing solutions
Voltex
Full range of energy billing solutions



BUILDING MANAGEMENT SYSTEMS

ABB South Africa
Full range of building management systems

ACDC Dynamics
Full range of building management systems

Comtest Distribution
Thermal imagers; battery testers; vibration meters; power quality clamp meters; single-phase power quality analysers; single-phase voltage quality recorders; three-phase power quality analysers; electrical energy loggers; power loggers; power quality loggers; power recorders; power quality recorders

Impact Power Innovations
Full range of building management systems

JDL Electric
Full range of building management systems

Major Tech
Compact power analysers, power quality analysers, current loggers, current and voltage loggers, leakage loggers; full range of professional ac and ac/dc clamp meters, compact ac and ac/dc clamp meters

Schneider Electric
Full range of building management systems

DBS, MAIN BREAKERS, CIRCUIT BREAKERS, OVERLOAD

ABB
Full range of DBs, contactors, circuit breakers and relays

ACDC Dynamics
Full range of DBs, main breakers and circuit breakers

ACTOM Protection & Control
LV air circuit breakers

Allbro
Distribution boards and ready boards

ARB Electrical Wholesalers
Full range of DBs, mains breakers, etc

Atlas Group
Full range of DBs, breakers

Bellco
Full range of DBs, breakers

CBI-electric: low voltage
12-way and 20-way distribution boards; full range of commercial and industrial miniature circuit breakers, moulded case circuit breakers and earth leakage protection devices

Comtest Distribution
Thermal imagers

Crabtree Electrical Accessories
A range of 6 kA MCBs (includes isolators, earth leakages and miniature circuit breakers); a range of 12 and 18 DIN flush mount distribution boards

Electrahertz
Full range of DBs, main breakers, circuit breakers

Electrozone Electrical
Full range of DBs, main breakers, circuit breakers

HellermannTyton
Full range of DBs

JDL Electric
Full range of DBs, main breakers, circuit breakers

Legrand
Surface- and flush-mount DBs; full range of breakers and protection devices

Magnet Electrical Supplies
Full range of DBs, mains breakers, circuit breakers

Major Tech
Full range of distribution boards including flush-mount Econo boards, surface-mount IP65 boards, IP65 clear/grey enclosures and IP55 junction boxes; specialists in populated ready boards, 3 kA and 6 kA mini circuit breakers, isolator and earth leakage switches

MCE Electric
Onesto distribution boards – flush and surface mount; indoor and outdoor; Onesto MCCBs three- and four-pole; Onesto circuit breakers one- to four-pole; new Schenker 13 mm circuit breakers

Megger
Megger test instruments for circuit breakers

Schneider Electric
Series 4 DBs and circuit breakers

Surgetek
Full range of DBs, main breakers, overload protection

Voltex
Full range of circuit breakers

Voltex Lsis
Full range of circuit breakers

Waco
Wide range of circuit breakers

Zest WEG Group
Full range of DBs, main breakers, circuit breakers etc

MV TO LV TRANSFORMERS

ABB South Africa
Full range of MV to LV transformers

ACTOM Electrical Products
Distribution transformers from 16 kVA to 5 mVA; power transformers from 6 mVA to 315 mVA

MV TO LV TRANSFORMERS

Allbro
Transformer bushings and tap change switches, protection equipment

ARB Electrical Wholesalers
Full range of MV to LV transformers

Atlas Group
Full range of MV to LV transformers

Bellco
Full range of MV to LV transformers

Electrahertz
Full range of MV to LV transformers

JDL Electric
Full range of MV to LV transformers

Legrand
Compact DIN rail-mounted transformers; LV transformers; power supplies up to 50 A; MV transformers 100 kVA – 3 150 kVA standard and up to 20 000 kVA Special

Magnet Electrical Supplies
Full range of MV to LV transformers

Schneider Electric
Electronic LV lighting transformers

Voltex
Full range of MV to LV transformers

Voltex MV/LV Solutions
Full range of MV/LV transformers

Zest WEG Group
Full range of MV to LV transformers

NEUTRAL EARTHING REACTORS

JDL Electric
Full range of neutral earthing reactors

RIPPLE CONTROLLERS

JDL Electric
Full range of ripple controllers

PAVEMENT CUBICLES AND BOXES

ACTOM Protection & Control
LV municipal, utility distribution and metering

Allbro
Pole mounted distribution boxes

Atlas Group
Full range of pavement cubicles, boxes

ARB Electrical Wholesalers
Full range of pavement cubicles, boxes

Bellco
Full range of pavement cubicles, boxes

Electrozone Electrical
Full range of pavement cubicles, boxes

JDL Electric
Full range of pavement cubicles, boxes

Legrand
Full range of enclosures in mild steel, polycarbonate and stainless steel

MCE Electric
MCE steel enclosures

Voltex
Full range of pavement cubicles, boxes

MINI SUBSTATIONS

ABB South Africa
Full range of mini substations

ACTOM Electrical Products
Compact mini substations; maximum rating: 22 kV up to 1 000 kVA available in mild steel, fibreglass or 3CR12 enclosures in Type A or B configuration

ARB Electrical Wholesalers
Full range of mini substations

Atlas Group
Full range of mini substations

Bellco
Full range of mini substations

Comtest Distribution
Visual thermometers; thermal imagers; battery testers; vibration meters; power quality clamp meters; single-phase power quality analysers; single-phase voltage quality recorders; three-phase power quality analysers; electrical energy loggers; power loggers; power quality loggers; power recorders; power quality recorders

Eaton Electric SA
Full range of mini substations

Electrahertz
Full range of mini substations

JDL Electric
Full range of mini substations

Legrand
Extendable mild steel enclosures

Voltex
Full range of mini substations

Voltex MV/LV
Full range of mini substations

MINI SUBSTATIONS

Zest WEG Group
Full range of mini substations

METERING (MEASURING INSTRUMENTS)

ACDC Dynamics
Full range of measuring instruments

ACTOM Electrical Products
Full range of metering instruments

ACTOM Protection & Control
Meter test blocks

ARB Electrical Wholesalers
Full range of metering instruments

Atlas Group
Full range of metering instruments

Bellco
Full range of metering instruments

Comtest Distribution
Multimeters; clamp meters; RMS meters; wireless meters; RMS ac voltage meters; RMS dc voltage meters; high performance industrial logging meters; remote display meters; IP 67 meters; IS meters; automotive meters; digital precision meters; 5.5-digit multimeters; wireless ac clamp meters; wireless flexi ac current clamp meters; Wireless ac/dc current clamp meters; True-RMS clamp meters; remote display True-RMS clamp meters; detachable jaw True-RMS ac/dc clamp meters; ac/dc clamp meters; leakage clamp meters; voltage/continuity testers; electrical testers; voltage alert pens; phase rotation meters; fluorescent light tester

Denver Technical Products
Range of metering instruments

Electrahertz
Full range of metering instruments

HellermannTyton
Full range of metering instruments

JDL Electric
Full range of metering instruments

Magnet Electrical Supplies
Catu MV and HV voltage detector complete with audible and visual alarm, contact type; Chauvin Arnoux current, power and harmonic clamp-on meters; Chauvin Arnoux Qualistar power quality analyser, digital with scope and 4 Mb of storage; Metrahit multimeters with optional data logging features

Major Tech
Compact power analysers; power quality analysers; current loggers; current and voltage loggers; leakage and loggers; full range of professional ac and ac/dc clamp meters; compact ac and ac/dc clamp meters

Surgetek
Full range of metering instruments

Voltex
Full range of measuring instruments

STANDBY/BACKUP SYSTEMS

ACDC Dynamics
Full range of uninterruptible power supplies

ACTOM Electrical Products
Full range of standby/backup systems

ACTOM Protection & Control
General protection relays

ARB Electrical Wholesalers
Full range of standby/backup systems

Atlas Group
Full range of standby/backup systems

Bellco
Full range of standby/backup systems

CBI-electric: low voltage
Manual and automatic change overs

Electrahertz
Full range of standby/backup systems

Electrozone Electrical
Full range of standby/backup systems

JDL Electric
Full range of standby/backup systems

Lapp Group SA
Full range of standby/backup systems

Legrand
Full range of modular, conventional and line-interactive UPSs

Magnet Electrical Supplies
Full range of standby, backup systems

MCE Electric
MCE petrol generator sets; Onesto automatic change-over switch

Stone-Stamcor
Yuasa sealed lead acid batteries

Voltex
Full range of standby/backup systems

Voltex MV/LV Solutions
Full range of standby/backup systems

Zest WEG Group
Full range of standby/backup systems



+27 10 202 6995



+27 31 910 0200



+27 10 202 3300



+27 11 683 0641



+27 11 879 6600



+27 11 874 7600



+27 11 046 1900



+27 11 723 6000



+27 11 872 5500



+27 11 833 1075



+27 11 879 2000



measure with confidence

+27 10 595 1821



ABB AWARDED ORDER FOR HV CIRCUIT BREAKERS

ABB has been awarded an order by Fluor for five intelligent compact disconnecting circuit breakers (DCBs) for the Oxygen Train 17 project for Sasol Synfuels Operations in Secunda. This is ABB's first local industry order for these advanced DCBs - the first utility order was for City of Tshwane municipality substation.

The additional Oxygen Capacity Train 17 project comprises the construction and commissioning of the world's largest air separation unit at the Secunda Synfuels Operations site, to provide additional high-pressure oxygen production capacity. The ABB order booked in quarter four 2016 comprises five DCBs rated at 145 kV, 3150 A nominal current and a fault level of 40 kA. An earth switch for each circuit breaker was included. ABB will supply the units from Sweden to a tight delivery schedule and the cold commissioning will be undertaken by ABB's local engineering team. The DCBs, required to bypass the current limiting reactors to start large motors, will help to address the challenge of space at the Oxygen Train 17 project substation. The ABB units are compact because they provide the functionality of a circuit breaker and a disconnect combined in a single unit. Without the need for separate disconnectors, up to 50 to 75 percent less space is required. Unplanned outages are reduced by up to 70 percent according to a Cigré report on high-voltage circuit breakers reliability, (group A3.06 October 2012).

Enquiries: +27 (0)10 202 6995

SINACON HC - HYBRID CONVERTER FOR INNOVATIVE GRIDS

SINACON HC is a modular, flexible hybrid converter for innovative grids which links different power sources and batteries to the public grid or can be used to create microgrids. The ready-to-connect converter cabinet is convenient to use, and its flexibility provides innovative scope for feeding into public grids as well as the creation and operation of microgrids, for instance, by integrating renewable energy sources such as wind or solar.

This modular, flexible hybrid converter concept works in conjunction with different decoupled dc sources. This allows different sources of energy, for instance, to be connected to the grid using just a single converter with different dc and ac terminals. The wide voltage range from 100 to 1150 V dc allows an extensive choice of different batteries to be connected independently of the ac mains voltage level. This makes the converter compatible with all kinds of different batteries, from lithium ion through redox flow batteries or fuel cells. The ac voltage of 620 V allows the creation of standardised solutions and opens up the potential for savings in the system. The broad scope of the converter opens up new business fields, both as a grid support and also for the creation of microgrids through the use of renewables combined with battery storage systems. The common inverter allows new concepts to be implemented and operated with the greatest of ease, for instance, the use of renewable energy sources in combination with grid support, or the implementation of renewable energy in microgrids to save fuel costs. A consistently high grid quality is assured throughout by an optimised grid filter concept with hysteresis current control.

The hybrid converter comes with all the necessary conditions for feeding into medium-voltage grids and is certified for local power grid standards (such as BDEW, UL1741, TAB HV).

The type tested, ready-to-connect cabinet system combines reliability with outstanding availability and efficient support through the global Siemens service platform. It also offers extensive scope for remote maintenance, control and operating status diagnosis using a web server.

BRITISH POWER GENERATION ACHIEVES FIRST EVER COAL-FREE DAY

Friday 21 April 2017 was Britain's first ever working day without coal power since the Industrial Revolution. The UK had shorter coal-free periods in 2016, as gas and renewables such as wind and solar played an increasing role in the power mix, however, the longest continuous period until now has been 19 hours - first achieved on a weekend in May 2016.

A National Grid spokesman said the record low was a sign of things to come, with coal-free days becoming increasingly common as the polluting fuel is phased out.

Coal has seen significant declines in Britain in recent years, accounting for just 9% of electricity generation in 2016, down from around 23% the year before, as coal plants closed or switched to burning biomass such as wood pellets. Britain's last coal power station will be forced to close in 2025, as part of a government plan to phase out the fossil fuel to meet its climate change commitments.

Britain became the first country to use coal for electricity when Thomas Edison opened the Holborn Viaduct power station in London in 1882. It was reported in the Observer at the time that "a hundred weight of coal properly used will yield 50 horse power for an hour." And that each horse power "will supply at least a light equivalent to 150 candles".

ACTOM PROTECTION & CONTROL'S NEW PROTECTION AND AUTOMATION PRINCIPALS

ACTOM Protection & Control (P&C), a division of ACTOM, has extended its protection and automation product offerings for the local electricity distribution sector by bringing on board two reputable international companies as additional technology principals.

The new-comers are Arcteq of Finland, which produces and supplies protection equipment, and NovaTech located in the United States, which specialises in automation equipment. P&C signed an exclusive local distributorship agreement with Arcteq at the end of 2015 and with NovaTech early last year.

The business unit retains its longstanding partnerships with its existing protection and automation principals for the transmission and distribution markets.

"P&C is known for the level of service and support we provide in the market for all the products we distribute. We are proud of our ability to understand the complex requirements of our market and ensure that our OEM partners appreciate them and work towards a satisfied customer," said Marius van Rensburg, P&C's sales manager.

"In the protection market, the OEM often relies on strong local support to grow its offering. ACTOM P&C has been evaluated by both of our new partners, who are convinced of our capabilities in this regard."

Faisal Hoosen, P&C's general manager, said: "The new distributor arrangement enables us to provide a bigger choice of products to the local substation automation market. Both companies' products are innovative and state-of-the-art and

the compatibility between their respective offerings is already proven. P&C, Arcteq and NovaTech are already geared to providing ongoing service and support to the market."

Enquiries: +27 (0)11 820 5111



ACTOM Protection & Control personnel seen with an automation panel demonstrating Arcteq and NovaTech integration are (from left): Joe Steyn, technical specialist; Elizabeth Senatle, product manager, Protection Products & Systems; Andrew Perkin, senior design engineer; and Herman Maré, technical specialist, Automation.

CONTAINERISED SUBSTATIONS - THINKING INSIDE THE BOX

A key area where big industries can reduce their operational costs is by using purpose-made, containerised substations. These repurposed marine shipping containers arrive on-site pre-installed with fully tested switchgear, ready for immediate cable connection.

Containerised substations are incredibly useful in remote areas. Civil construction costs are high, and converting a standard marine specification container into a substation is significantly less expensive than arranging for the on-site construction of switchgear housing.

Another benefit of containerised substations is that they are fully equipped and assembled at the manufacturer's premises, and can comprise bespoke combinations of distribution equipment, control gear and PLC equipment. All this equipment undergoes full function testing before being dispatched.

Once on site, the containers are easily mounted on plinths, columns or skids. If mounted on columns, cable entry is possible through openings in the floor at the base of the container. If this isn't possible, then exterior cable entry boxes, mounted to the exterior of the container, provide cable entry through the side. These boxes are removed during transport of the container.

Some switchgear (such as ring main units) also needs arcing ducts out of the sides or bottom of the container. In this instance, special modification to the container is needed to prevent an arc from affecting the interior environment.

Containerised substations are commonly used in environments such as mines and open-air construction sites, among others. Containers are, by nature, well-sealed, meaning they offer an effective way of keeping dirt, dust and other pollutants out. Ventilation systems with filters can be fitted to maintain a positive pressure within the container. Each system can be custom designed to suit individual site requirements, including high pollution environments.

Marine containers vary in size and are easily transported on a standard low-loader and lowered into position using a crane.

JB Switchgear manufactures high-quality switchgear systems that meet the latest national and international safety and performance standards. It modifies marine containers for substation applications with options including insulation, flooring, lighting and small power, air conditioning and fire suppression, among others.

Enquiries+27 (0) 11 027 5804

OFF-GRID ENERGY SOLUTIONS POWER AFRICA

With more than 600 million people in Africa lacking access to affordable and reliable energy, new technological developments such as off-grid solutions are becoming increasingly important. Cummins Power Generation specialises in the design and manufacture of pre-integrated generator sets from 8 kVA to 3300 kVA.

Off-grid solutions are based on the specific needs of the operation or application in question, classed generally as either 'standby' or 'prime'. As the name suggests, 'standby' provides power in the event of grid failure, which means the duty is far lower. A light application, for example, would require a generator designed for around 20 to 40 hours of operation a month.

'Prime' solutions are entirely separate from the national grid, and supply load power on a 24/7 basis. "This option requires considerably better planning and far greater investment, as the entire outcome of the operation depends on the power supply," says Cummins Power Generation director Kenny Gaynor.



"The genset needs to be specified precisely. This means the most important aspect to take into consideration is the original equipment manufacturer (OEM) or supplier. Product quality, parts availability, aftersales service and technical capability are paramount to success. If one aspect fails, the entire project fails," Gaynor stresses.

As part of its off-grid offering, Cummins Power Generation provides a full and

comprehensive range of services, including conceptualisation, design, construction, installation, commissioning, operation and maintenance. Owing to the complex and intricate nature of such solutions, a dedicated Cummins expert is assigned to oversee all aspects of the project, including the training of relevant customer personnel.

Enquiries: +27 (0)11 589 8400



INTEGRATED ELECTRICAL SYSTEM

GEWISS offers an integrated electrical system with over 20 000 products for domotics (home automation), energy and lighting.

Gewiss' protection system comprises products that integrate perfectly with each other, including the innovative 90 ReStart range (automatic reclosing devices), the 90 MCB and 90 RCD ranges (modular circuit breaker for circuit and residual current protection) and the 47 CVX range (metal distribution boards). The integrated range of products can meet every need according to application – from residential to industrial – and can guarantee quality and safety. The advantages of the system are, practical compatibility of homogenous products; simple and quick planning, installation and maintenance of the system; and modern and stylish design.

90 ReStart devices restore power supply quickly from automatic circuit breaker trips, but only after checking the system status. In addition, the Autotest function periodically tests the functioning of the residual current circuit breaker protection without disconnecting the system from the power supply. The range includes two-pole and four-pole versions.

- The 90 MCB range is made up of:
- MTC - compact miniature circuit breakers, from 2 to 32 A in B and C curve and breaking capacity up to 10 kA.
 - MT - traditional miniature circuit breakers, from 1 to 63 A in B, C and D curve and breaking capacity up to 25 kA.
 - MTHP - high-performance miniature circuit breakers, from 20 to 125 A in C and D curve and breaking capacity up to 25 kA.

The 90 RCD range includes the MDC monobloc compact residual current circuit breaker with overcurrent protection, the BD and BDHP add-on modular residual current devices for MT and MTHP miniature circuit breakers and the SD residual current circuit breaker.

The 90 AM range consists of auxiliaries for circuit breakers and many modular accessories for protection, command, programming, measurement and signalling in electric systems.

The LST surge protection range guarantees excellent



protection of loads and power distribution systems; it includes:

- LST surge protection devices.
- Disconnectable fuse holders.
- Residual current relay with separate toroid.
- Motor protection switches.

The 47 CVX range of distribution boards is available in modular and monobloc systems from 160 bA to 3200 bA. Whether surface or flush mounting, the boards offer a variety of IP ratings to suit most applications. Owing to the extractable frame and quick connection of brackets, rails and functional profiles, 160 bA boards enable quick assembly and since the 630 bA boards are based on a 'completely open structure', board wiring operations are quick and easy.

This entire range of items is available from ACDC Dynamics.

Enquiries: +27 (0) 10 202 330

IAEA AND ROSATOM TO IMPROVE NUCLEAR INFRASTRUCTURE IN NEWCOMER COUNTRIES

The International Atomic Energy Agency (IAEA) and Rosatom have reached an agreement aimed at strengthening IAEA assistance to the Member States that are considering introducing nuclear power or expanding an existing programme.

"This includes, in particular, nuclear training, development of the industry regulations and analysis of every safety facility that is to be made under the auspices of the IAEA," said Alexey Likhachev, CEO of Rosatom.

Under the Contribution Agreement, Rosatom will provide a financial contribution of up to USD 1.8 million and an in-kind contribution of up to RUB 109.5 million over the next three years to IAEA programmes on nuclear infrastructure development.

The IAEA's Nuclear Infrastructure Development Section, through the Technical Cooperation programme, provides targeted support to the Member States embarking on new nuclear power programmes or expanding existing ones. About thirty countries are currently considering, planning or starting such programmes.

Developing a nuclear power programme is an undertaking of at least ten to fifteen years. The IAEA's Milestones approach provides structured guidance and checklists to help nuclear newcomer countries better understand the commitments involved in introducing nuclear power, from developing a regulatory framework to building a plant and planning for its decommissioning and nuclear waste management.

In particular, the Contribution Agreement will help strengthen IAEA efforts to promote capacity building in newcomer and expanding countries in areas including nuclear safety, stakeholder involvement and the development of a national position on nuclear power.



2017-05-FlukeLite-17BRev1-0
08 May 2017 03:02:40 PM

POWERTAG ENERGY SENSORS



The PowerTag wireless energy sensor from Schneider Electric is designed to monitor miniature circuit breakers (MCBs) and other electrical panel devices. PowerTag delivers precise real-time data on electrical loads to building owners and facility managers, flagging potential issues and resulting in a significant reduction in system downtime.

Ideal for installation in new buildings or existing panels, PowerTag is designed to be used with Schneider's Acti 9 Smartlink Modbus and Ethernet-based system, which is used to communicate data from Acti 9 devices to a PLC or monitoring system. In addition, PowerTag is the smallest wireless energy sensor available on the market and can easily fit into any existing panel, taking up no extra space on the DIN rail. In combination with the Acti Smartlink system, it offers a high-density metering solution that saves space and delivers smart connected circuit breakers with no change in the switchboard footprint.

The system allows switchboards to be connected with building management systems for energy monitoring and control or enables the easy addition of metering in existing switchboards for energy-efficiency compliance. Delivering key information on potential electrical issues, such as whether there is a problem with the end load or the circuit breaker, PowerTag devices provide real-time monitoring of a range of electrical characteristics including power, total and partial energy, load balancing by phase, current by phase, and voltage by phase.

The Acti 9 Smartlink system concentrates the data that is received wirelessly from PowerTag units and simplifies the connectivity of individual breakers within a building management system. The system can also provide immediate email alerts to devices such as smartphones, tablet or PCs in the event of downtime. Data can be displayed via specially designed web pages, which means there is no requirement for a local display panel.

Easy to install and commission via free Acti 9 Smart Test software, up to 20 PowerTag units can be installed with no additional wiring, which cuts installation time to just a few minutes, even for existing panel installations. Deployment also means fewer cabling errors and lower cost, as there is no need to replace existing panels.

Schneider Electric PowerTag wireless energy sensor units are available from RS Components.

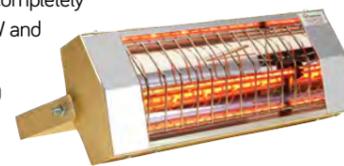
Enquiries: www.electrocomponents.com

WARM UP THIS WINTER WITH TECHNILAMP HEATERS

Technilamp heaters are manufactured locally and have been distributed nationally to restaurants, factories, office blocks, lecture rooms, homes and schools. The Caribbean Ray and Zone heaters are 80% more economical than gas, and infrared is endorsed by Eskom as the most cost effective and efficient heating. While the Caribbean Ray is modern and aesthetically pleasing, the Zone is designed for the engineering category.

Technilamp's mission is to provide a variety of heating solutions that are economical and user-friendly. Infrared delivers instant heat and the heaters are wall-mounted to provide heating for indoor and outdoor environments. The heaters can be positioned in open spaces such as patios, large buildings and restaurants as they are completely unaffected by wind. They have a lamp wattage of 1.5 kW and a lamp life of 9000 hours.

A conventional or oil heater wastes energy by taking a while to warm up, an infrared heater delivers instant, radiant heat at a comfortable temperature.



Enquiries: www.voltex.co.za

Now everyone can own a FLUKE

For a range of quality instruments you can count on, the FlukeLite range offers a selection of the most popular test and measurement tools at a price everyone can afford.

More is now less with

FLUKE.



measure with confidence

Comtest
10 Enterprise Close
Linbro Park
2090

Tel: 010 595 1824
sales@comtest.co.za
www.comtest.co.za

Contact us for technical or seminar information, demonstration, or to locate your nearest dealer.



ROTARY HAMMER FOR ARDUOUS ENVIRONMENTS

A 1 700 W motor producing 19 J of impact energy makes the GBH 12-52 D Professional rotary hammer the most powerful rotary hammer from Bosch to date.

The improved performance means it is ideal for arduous applications such as removing sturdy floor tiles, concrete breakthroughs and concrete demolition. The GBH 12-52 D only weighs 11.5 kg. It has a vibration value of 20 m/s² when drilling and 15 m/s² when chiselling. It has a maximum drilling diameter of 52 mm and a 150 mm maximum hole size (with a hollow drill bit). The Vario-Lock features allow users to select the best of 12 positions when chiselling, while the Constant Electronic feature has an absolute speed dial with six positions.

The auto lock-on trigger increases user comfort during continuous chiselling operations. In drilling mode, the switch does not lock on, which is a significant safety feature. In chiselling mode, the switch locks on automatically and is released manually by pulling the lower trigger.

The rotary hammer is supplied in a handy carrying case, which has ample space for accessories. These include hammer-resistant core cutters for the toughest applications faced by rotary hammers, including the SDS-max holder.

The core cutters feature a sturdy, hardened bit with spiral flute and a double wave base for an extremely fast drilling rate. In addition, the tungsten carbide teeth of the hammer drill bit guarantee a long life.

The GBH 12-52 D is also compatible with the GDE 68 Professional and GDE 162 Professional dust extraction systems for drilling.

"Construction sites are arduous environments that require the most robust tools," says Campbell Mhodi, Bosch Professional Power Tools senior brand manager.

Enquiries: +27 (0)11 651 9600



ANALYSE POWER QUALITY AND CALCULATE ENERGY LOSS



Poor power quality causes physical damage to equipment and results in downtime which, in turn, lowers productivity and substantially increases energy costs. Using the K6305 power quality analyser is easy.

The K6305 power quality analyser from Major Tech offers 3PH four-wire, 3 PH three-wire or single phase multifunction measurements, recording and analysing of power systems. The meter can be used for various wiring systems and can measure up to three systems on a single-phase two-wire circuit. It can be used for measurements of instantaneous, integrated or demand values. "This instrument has an automatic wiring check function to prevent incorrect connections," says sales manager Werner Grobbelaar. "The meter will check the connections and display the results on the LCD screen." A wide selection of clamp sensors allows measurements from 0.1 A to 3000 A, and the instrument automatically recognises the kind of clamp sensor connected to it.

The K6305 meter has a large memory capability and can store up to 2 GB. Measured data can be saved using the SD card or the internal memory and the data can be transmitted to PC via USB or Bluetooth. Measured data can be checked on android devices in real-time using the Bluetooth function.

The K6305 complies with IEC61010-1, CAT III 600V safety standards and includes power and energy measurement features such as voltage (true RMS), current (true RMS), active power, apparent power, reactive power, active energy, apparent energy, reactive energy, power factor (cosθ), frequency, demand measurement and current flowing on the neutral line (only on three-phase four-wire measurement).

Standard accessories include:

- Four voltage test leads
- USB cable
- Carry case
- 2 GB SD card
- Software
- Six batteries

Optional accessories include: Clamp sensors, flexible clamp sensor, power supply adaptor, and a carrying case with magnet.

The easy-to-use power meter helps users locate, predict, prevent and troubleshoot problems in power distribution systems and is a must have in every toolkit.

Enquiries +27(0)11 872 5500

Made in Germany **REAL TOOLS, REAL QUALITY!** **LIFETIME WARRANTY**

SINCE 1882 **KNIPEX** SINCE 1939 **wiha**

www.knipex.com www.wiha.com

DISTRIBUTORS COUNTRYWIDE

EXECUTIVE TOOLKITS

GARRY LUMPE IMPORTS

Tel: 0861 237 770 sales@glimports.co.za



BROTHER INTRODUCES NEW INDUSTRIAL LABEL AND TUBE PRINTER

Brother International has launched its first industrial tube printer. Conceptualised to enhance productivity, the PT-E800T industrial tube and label printer enables electricians, distribution board builders, site engineers, server installation technicians and cable installers to mark their projects easily and effectively.

The robust PT-E800T prints up to 36 mm wide TZe laminated labels; up to 177 mm heat shrink tube; as well as direct to tube up to 6 mm high, all from one compact labelling machine. With fast print speeds of tube printing at 40 mm per second and labels at 60mm per second, the PT-E800T allows print jobs to be completed quickly and easily with an optional rechargeable battery and base for on-site use. It can be transported to where electrical work is in progress and controlled with a laptop. Print is via a USB connection with the Brother P-touch Editor software for label printing and the Brother Cable Label Tool software for tube printing.

Brother is the first company to introduce

industrial tube printers with integrated twin engines. This innovation allows electricians to switch between tube and label print modes without having to remove or reinsert consumables before printing. Compatible with durable TZe tapes, the toughest laminated labels in the market, the PT-E800T accepts labels of up to 36 mm in width, supporting a wider range of labelling applications. The PT-E800T further maximises printing options with the ability to print up to 32 mm on 36 mm labels, and up to 6 mm on tubes.

With the PT-E800T, electricians can replace selected components themselves. Tube cutters, cleaners, and conveyance rollers can be replaced



on-site in a few easy steps. The PT-E800T includes a free, automatic three-year carry-in warranty against manufacturer defects.

Enquiries: Werner Obermeyer
+27 (0)12 345 5332

IR THERMOMETER HANDLES HEAT, DUST, WATER - AND A 3 M DROP



FLUKE has launched the Fluke 64 MAX IR thermometer with internal memory, unattended monitoring, improved accuracy, increased battery life, and 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, 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 one).
- Fluke is represented locally by Comtest.



HellermannTyton
www.HellermannTyton.co.za

Rugged backpack tool kit suitable for all electricians on the go!



Ergonomically designed for comfort with multiple compartments for easy access and storage

Ideally suitable for harsh and demanding environments such as mining, this backpack includes most electrician tools with the option of adding additional tools and instruments.

Features and benefits

- Conforms to safety standards with PVC industrial reflective tape on front and back
- Solid waterproof base for protection of tools and instrument as well as heavy duty use
- Padded back and adjustable straps for added comfort
- Quality tools with lifetime warranty
- Water resistant
- Maximum weight: 12kg

HellermannTyton is your partner of choice with 50 years of experience and knowledge, from product development to complete system solutions tailored to your requirements.

Johannesburg
Tel: (011) 879-6600
Fax: (011) 879-6603

Cape Town
Tel: (021) 594-7100
Fax: (021) 594 7130

Durban
Tel: (031) 492-0481
Fax: (031) 569-9909

Port Elizabeth
Tel: (041) 408-2400
Fax: (041) 453-0336

E-mail: jhb.sales@hellermann.co.za



Enquiries +27 (0)10 595 1821



BESSEY EXPANDS WORKBENCH ADAPTER RANGE FOR CLAMPING ELEMENTS

Bessey has expanded its TW16AW adapter range for use of its clamping elements on all common workbenches with a hole system. Adapters for three further hole diameters are now available in addition to the workbench adapter for a hole diameter of 19 mm.

The TW16AW19 workbench adapter has been on the market since 2016. It enables the use of clamping elements of the TW16 and TWV16 series on workbenches with a hole diameter of 19 mm. Bessey also provides adapters for three further workbench hole systems for diameters of 20 mm, 25.4 mm and 30 mm.

Clamping elements of the TW16 series with a fixed throat depth of 100 mm and the TWV16 series with a variable throat depth of 30 to 150 mm can be used in conjunction with the workbench adapter.

The tools for accurate clamping on workbenches are available in three handle variants: a high-quality two-component plastic handle, T-handle or a lever handle. The model with the lever handle is especially practical for quick clamping. Thanks to the locking mechanism, the clamping element can be securely fixed with a single movement, thus enabling rapid and controlled clamping. This pays off especially in the processing of long work pieces where many holding points are necessary because saving time and reducing fatigue are key advantages.

Characteristic of all models and handle variants is the sliding



arm for elastic, sprung clamping, as well as the annealed profile. Like the spindle, it is processed in tried-and-tested quality steel. This guarantees a dimensionally stable and low-torsion clamping tool, which exhibits long service life on the bench with daily use.

Enquiries: +27 (0)11 314 7711

STANLEY BLACK & DECKER: SUPPLIER OF ICONIC BRANDS

STANLEY BLACK & DECKER, an S&P 500 company, is a diversified global provider of hand tools, power tools and related accessories, mechanical access solutions and electronic security solutions, healthcare solutions and engineered fastening systems. Its strong brands provide a meaningful competitive advantage and command loyalty among consumers. The company has a track record of taking iconic brands and accelerating their growth and deployment around the world.

Over the past 15 years, Stanley Black & Decker has transformed from a nearly 175-year-old small cap building-products company to a large diversified industrial. The company as it is known today was formed in 2010 when Stanley Works (established in 1843 to manufacture bolts, hinges and other hardware) combined with Black & Decker (established in 1910 to design and manufacture power tools).

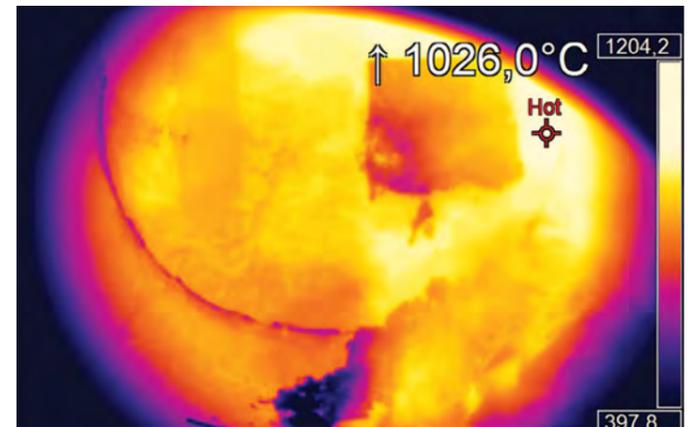
Innovation has always been a hallmark of the Stanley Black & Decker culture and in recent years it has focused on raising the bar even higher. Everyone in the organisation has rallied around innovation as the key to ensuring the work of tomorrow is faster, safer and more efficient than before – both within the company and for its customers. Year after year it has brought the most innovative products to market, but its enhanced culture of innovation is pushing it even further to create solutions for unmet user needs and reshape how people work and live.

As the company's Global Emerging Markets (GEM) business continues to evolve it has become more focused on innovation and has on offer an array of brands for the GEM. "We know our strength comes from our brands, from the quality they represent and from the connection they create with our end-users. As we develop a better understanding of our end-users we remain committed to the continuous strengthening of our brands, making our clients' sales easier, more productive and more profitable," says Bart Muller, President of Emerging Markets Stanley Black & Decker Inc.

The Stanley Black & Decker GEM range comprises the Facom; Lenox; Irwin Tools; DeWalt; Stanley, Black and Decker and Proto brands.

Enquiries: www.stanleyblackanddecker.com

HIGH-RESOLUTION INFRARED CAMERAS FOR ADDITIONAL FIELDS OF APPLICATION



Optris PI 450 and PI 640 infrared cameras can be calibrated for a temperature measurement range of up to 1500°C. This allows the two high-resolution cameras to be integrated into applications that far exceed the previous threshold of 900°C. The camera models feature an impressive dynamic range from 200°C to 1500°C, thus extending their possible applications. In heat treatment and high-temperature processes, in particular, continual measurement without switching range is now possible.

the LWIR range (7.5 – 13 µm) with resolutions from 160 x 120 pixels. The two high-resolution models with 382 x 288 and 640 x 480 pixels can be calibrated to the temperature range 200°C to 1500°C. In this range, the system accuracy is ±2 %. Uncooled, the cameras can be employed in environments from 0°C to 50°C (PI 640) or 70°C (PI 450) and, with a cooling housing even up to 315°C.

Optris GmbH is represented locally by Instrotech.

Optris offers five cameras in Enquiries: +27 (10) 595 1831

LED STROBOSCOPE FOR FRONT-LINE TROUBLESHOOTING

COMTEST has on offer the Fluke 820-2 LED Stroboscope, which it claims is more than just an investigative/observational tool to measure rotational speed of machinery without physical contact. It is also a rugged, ergonomically-designed, diagnostic tool which allows for clear observation of machinery in motion for diagnosing parasitic oscillation, slippage or unwanted distortions. The 820-2 LED Stroboscope can effectively be used for frontline troubleshooting, process or product research, and development.

Cyclic motion can be slowed or stopped visually in order to note performance, observe dynamic motion, measure speed, or photograph/video the action, for many diverse applications in a vast range of industries.

The Fluke 820-2 LED Stroboscope features:

- High intensity 7-LED array – 4800 lux @ 6 000 FPM/30 cm.
- High efficiency LED solid-state light source with uniform flash characteristics to allow for higher flash rates – 30-300 000 FPM (flashes per minute).
- Digital pulse width modulation for exceptionally sharp images at high speeds.
- Rugged, durable design utilises solid-state LEDs with no filaments, gases, hollow cavities, or glass – (one-metre drop).
- Quartz-accuracy control system provides high accuracy 0.02 % (±1 digit).
- Multi-line LCD display.
- Advanced or retard flash timing for viewing gear teeth, cutting surfaces, repeat, or 'drifting' equipment.
- Simple push button operation with 2x and +2 buttons for easy adjustment.

Fluke is represented in South Africa by Comtest.

Enquiries +27(10) 595 1821



Makita

Rotary Hammers - Working with You!

● HR4003C 11.4J Rotary Hammer

Supplied with a carry case.

- 2 Operation modes:
- Hammering with rotation (for drilling).
 - Hammering only for (chipping and breaking).

Most powerful and efficient in the class.

Specifications:

Concrete (with TCT Bit) (mm)	No Load Speed (r/min)	Blows per minute	Net weight
40	250 - 500	1,450 - 2,900	6.2kg

1,150W

● HR3200C 5.5J Rotary Hammer

Supplied with a carry case.

- 3 Operation modes:
- Hammering, hammering with rotation and rotation only.

Lightweight design featuring low vibration.

850W

Specifications:

Capacities	No Load Speed (r/min)	Impacts per minute	Net weight
Concrete (with TCT bit): 32mm Steel: 13mm Wood: 32mm	315 - 630	1,650 - 3,300	4.8kg

Other Rotary Hammers in this range:

● HR2630



● HR2810



● HR4002



● HR4013C



Rutherford
A MEMBER OF THE Hudaco GROUP



f MakitaPowertoolsSA

t MakitaToolsSA

For more info. or your nearest Makita dealer contact Rutherford:
• JHB: 011 878-2600 • CT: 021 932-0568 • DBN: 031 717-6400

www.makita.co.za



MODULAR DADO TRUNKING FOR ALL OFFICE AREAS

Rapid 80 installation trunking combines design and function into a single system. Thanks to the consistent standardisation of system components, it is possible to use the three types of trunking – plastic, aluminium or sheet metal – as individual variants or in combination. The accessory parts, such as end pieces or variable fittings, fit all versions.

All Rapid 80 device installation trunking has an inner system opening of 76.5 mm. This ensures that sockets, data technology elements and small switch ranges with large external radii can be inserted without visible gaps. It is an ideal solution for areas in which there is a lot to install.

Rapid 80 combines straightforward design and the highest quality with perfect handling in termination and processing. The trunking covers are smooth, fluted or transparent. Accessory parts, such as end pieces or variable fittings, fit the plastic, sheet trunking and aluminium trunking.

The Rapid 80 plastic range (GK) is available in four colours, one trunking height and three trunking widths. The trunking is single-compartment, symmetrical and offered with all the necessary fittings. All the trunking has pre-mounted trunking couplings.

The Rapid 80 sheet steel product range (GS) and the Rapid 80 aluminium product range (GA) are offered in two trunking heights and four trunking widths. The trunking is available in single-compartment, double-compartment or asymmetrical variants. All the appropriate fittings are available for all the variants.

Enquiries: +27 (0) 11 378 3700

PORTABLE DIFFERENTIAL PRESSURE MEASUREMENT

KOBOLD, represented locally by Instrotech, has an offer precise pressure measuring devices HND-P121/P231 to HND-P127, with integrated pressure sensors. They have two pressure measurement inputs on the top of the housing connected to the measuring points by means of a stable metal connection and plastic hoses, available as accessories.

Numerous measuring ranges in the over-pressure and under-pressure range are available for various measurement tasks, such as differential pressure measurement. In addition to pressure display, these first-rate, compact, universally applicable measuring units offer additional functions such as minimum/maximum value memory, a hold function, tare function, automatic self-shut-off, or zero point offset. The devices with an expanded spectrum of functions also have a logger function, a peak value memory, minimum/maximum alarm, an adjustable measuring cycle, and averaging.

Key features:

- Integrated pressure sensor.
- Differential pressure measurement.
- Two hose connections.
- Serial interface.
- Extensive additional functions.
- Relative pressure sensors.

Enquiries: +27 (0) 10 595 1831



ELECTRONIC CoC MAKES CONTRACTORS' WORK SIMPLER

WOULDN'T it be great if the next time you had to issue a Certificate of Compliance, all the repetitive data, such as registration, ID number and contact details were already filled in beforehand and all you needed to do was complete the site-related information?

The ECA(SA)'s new electronic CoC is available to ECA(SA) members only. A helpful 'tool', the eCoC is designed to help members save time and make their lives simpler. It does away with laborious, repetitive writing of the same information, the uncertainty of what goes where and the search for numbers and information.

With the electronic CoC, all contractors need do is enter the site information and technical details. A valid ECA(SA)

membership and an internet connection is all you need to use this tool.

Contact your nearest regional office and confirm that all your information on the ECA(SA) database is correct. You will then be given your own unique username and password as well as further instructions.

All completed and saved eCoCs are stored securely and can be retrieved as and when required.

Contact your nearest ECA regional office for more details.

Enquiries: +27 (0)11 302 0000



Most compact, powerful midrange impact drill driver.

Bosch GSB 18 V-EC Cordless Combi

Exceptionally durable: The new professional cordless combis from Bosch last for longer than ever before. Brushless EC motor technology reduces wear and doubles lifetime. 4.0 Ah batteries with Bosch Cool-Pack technology provide enormous battery runtime. For a wide range of screwdriving and drilling applications in wood and metal, and impact drilling in masonry up to 13 mm.



Bosch Professional Power Tools SA



@BoschPro_SA



boschpro_SA

www.bosch-pt.com



MAJOR TECH'S ENHANCED D2 LED DOWNLIGHTS RANGE

Major Tech's enhanced ultra-slim D2 LED downlights allow access to tight spaces and offer a high-quality functional solution for the home, office, hospitality, showrooms and business buildings that are also energy-saving and environmentally friendly. Using the latest LED technology, the range delivers from 180 lm to 2100 lm. Beam angle of 112-115 degrees spreads the light out further, lighting a wider area and requiring fewer downlights to be installed. The stylish downlights are low maintenance and of durable aluminium and PMMA plastic construction. The D2 range 9 W to 24 W comes standard in a dimmable application with a power factor of >0.9.

- Features:
- Energy saving
 - EMC approved
 - 6500 K cool white
 - Power factor >0.9
 - Supplied with a LED driver
 - High-quality Epistar LED
 - Available in dimmable and non-dimmable
 - Available in 3 W, 6 W, 9 W, 12 W, 18 W and 24 W
 - Input voltage - AC85-265V

Enquiries: +27 (0) 11 872 5500



BEKA SCHRÉDER ILLUMINATES REA VAYA BRT BRIDGE ON M1 HIGHWAY



BEKA Schröder LED luminaires illuminate this iconic new bridge in Johannesburg

Africa's leading manufacturer of energy efficient luminaires, BEKA Schröder, recently completed lighting the BRT Bridge on the M1 highway.

Rea Vaya's new route will form the backbone of Johannesburg's Louis Botha Development Corridor, connecting Alexandra to central Johannesburg and to its neighbour, Sandton.

When BEKA Schröder was approached to do a lighting design for the BRT Bridge, the company learned that the bridge was going to be used by buses, and would also have a pedestrian walkway.

"The approach employed to illuminate the bridge was to make the bridge iconic and interesting, and maybe incorporate colours that were relevant and in line with the city's theme. We furthermore needed to ensure that we catered for the safety and security of the pedestrians and the buses using the bridge," says Retief Coetzer, senior lighting design engineer at BEKA Schröder.

"Owing to these requirements, we had to design special LEDbeam luminaires that were used in conjunction with the OMNistar floodlight. A DMX controller was used to control the lighting and colours for different colour schemes. The side rails, cable structure and the top of the bridge were illuminated in such a way that they created an iconic look while providing safety at the same time. CITEA LED luminaires light the BRT route and pedestrian walkway."

"LED luminaires were the light source of choice, and BEKA Schröder was tasked with doing the lighting design, and selecting the best luminaires for the application. It all came together in an awesome lighting effect after the electrical installation by RJJ Projects," says Dawid Janse van Vuuren from Royal HaskoningDHV.

Hatch was the consultant for implementing agent, Johannesburg Development Agency, with Cliff Weideman, as the project manager and contracts engineer on-site for Hatch.

Colleen Luh, BEKA Schröder senior sales representative and Willie Opperman, regional manager, were involved in the design and conceptualisation of the project from the beginning. A number of ideas were presented to the involved consultants and architect, as well as JDA and City Power to ensure that the illumination and colour changing made the BRT Bridge one of the iconic bridges in Johannesburg.

"We are proud of our association with the electrical consulting engineers, Royal HaskoningDHV, and the electrical contractors, RJJ Projects, in providing a stunning decorative lighting solution for this prestigious project," says Coetzer.

Enquiries: Colleen Luh +27 (0)11 238 0000



LEDVANCE
LEDVANCE.COM

Our bestsellers for your business

Light is personal
Success the easy way with
LEDVANCE® LED luminaires.

All the features you need in your daily work:
high efficiency, proven quality and easy installation.





HIGH OUTPUT LED WARNING BEACONS

E2S Warning Signals has developed a comprehensive range of LED beacons for use as warning beacons and status indicators for systems installed in hazardous areas and industrial environments. The LED units, using a multiple array of high power white Cree LEDs, offer significant advantages over traditional Xenon strobe technology in many applications. The typical light output level from the LED units is 338 candela, significantly higher than the 120 candela effective intensity of a 5J Xenon tube unit. E2S LED beacons have five flash rates for warning beacon and

have high and low power steady modes for status indicator uses – enhancing the typical life of more than 60 000 hours. DC voltage versions feature three remotely selectable stages enabling multiple warnings to be signalled from one device.

The same light engines and control electronics are at the heart of beacons available in all product families in the E2S range. The STEx (316L stainless steel), the GNEx and E2x (GRP) and BEx and D2x (marine grade LM6 aluminium enclosures), are all available with the new generation

of LEDs, providing a variety of mechanical protection, corrosion resistance, weight, and price to suit different environmental requirements and applications. The polycarbonate, UV stable lenses are available as spare items in amber, blue, clear, green, magenta, red, and yellow. Whilst enhancing the light output, the lens filters are also field replaceable enabling the reassignment of beacon function to be a simple and quick process.

Enquiries: www.e2s.com



FUNCTION FIRST WITH FUMAGALLI OUTDOOR FITTINGS

When it comes to selecting outdoor lighting, function tends to take precedence. But you do not want to have to compromise on aesthetics and with the Fumagalli collection of outdoor luminaires there is no need to.

The Italian brand's latest range offers the ultimate 'fix and forget' solution to a myriad outdoor lighting requirements. The new coastal-quality luminaires, available in South Africa exclusively from Eurolux, are designed to withstand the effects of the harshest climatic conditions, including the corrosive coastal air.

Fumagalli products are produced using high quality raw materials and components, explains Shaun Bouchier, director at Eurolux. The specialised resin formulation, used in all its products, is self-coloured and UV stabilised. "This means that the fittings are virtually maintenance-free and will not discolour or fade, even in the brightest sunlight," he says.

Tried, tested and trusted, the new models in the range, the Lucia and the Maddi LED Bulkheads, offer the material and technological superiority come to be expected from the Italian brand.

The round Lucia is available with ring, eyelet and guard covers that are suitable for wall, ceiling and post installation. Its polycarbonate base is available, on request, in black, grey and white, to create an elegant and customised ambience. The Lucia's printed circuit board is fitted with 150 LED x 6 lm, ensuring uniform light distribution and, by adding the Remi Bracket, the lamp can be angled at 35°.

The Maddi is an oval bulkhead, available with the same cover conversions as the Lucia and is also suitable for wall, ceiling and post installation. It is as functional in commercial and public spaces as it is in residential areas, and works as well indoors as it does outdoors. The Maddi bulkhead can only be mounted vertically when used in conjunction with the Remi bracket and provides a lifetime of 30 000 hours.

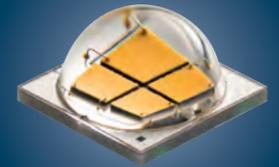
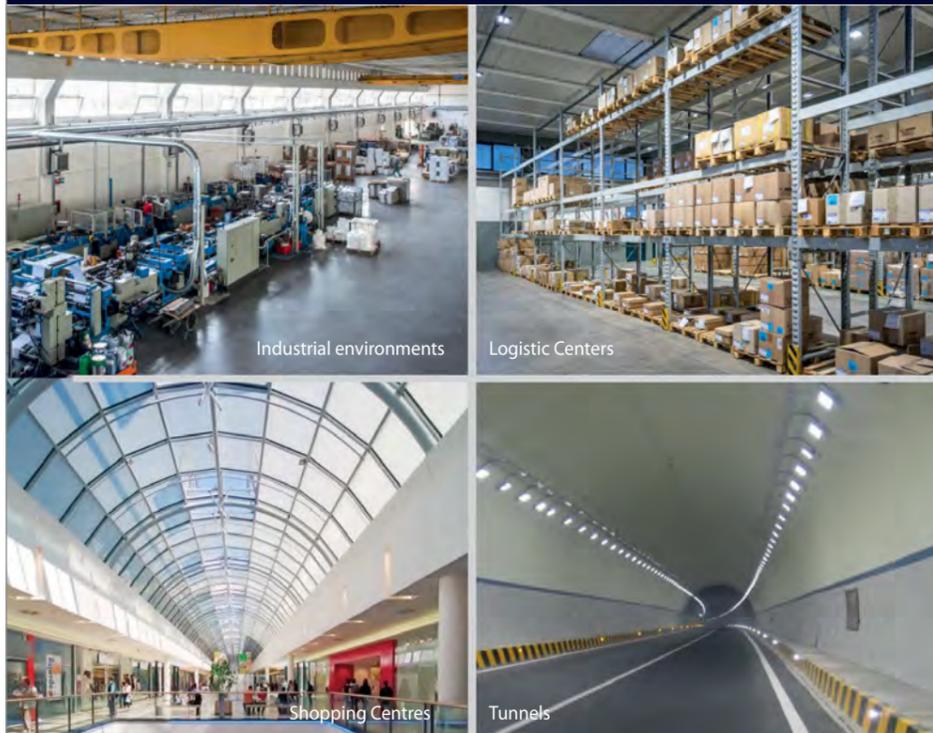
"In the Lucia and Maddi ranges the eyelet cover is particularly popular, as the top half of the lamp is covered so the light is reflected down onto the ground and glare is reduced," says Bouchier.

The Fumagalli range comes with a lifetime warranty.

Enquiries: +27 (0)21 528 8400



TRULY SUSTAINABLE LIGHTING



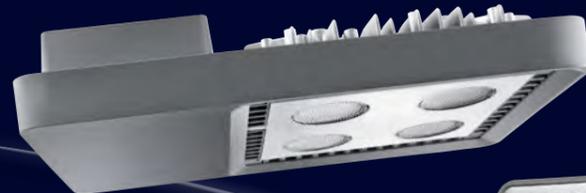
Innovative POWER LED system



Ease of installation and replacement



Comprehensive lighting solution



Smart [4]

LED SYSTEMS FOR INDUSTRIAL LIGHTING AND PROJECTION



SMART[4] is the new Gewiss lighting range that can be used as a floodlight, high-bay or ceiling light, offering different photometric characteristics depending on your installation requirements. With the unmistakable Italian styling, you are ensured of an easy and effective installation with a vertical or horizontal installation option. SMART[4] delivers you energy efficiency, cost savings, superior light quality with fast and easy installation.

www.gewiss.com

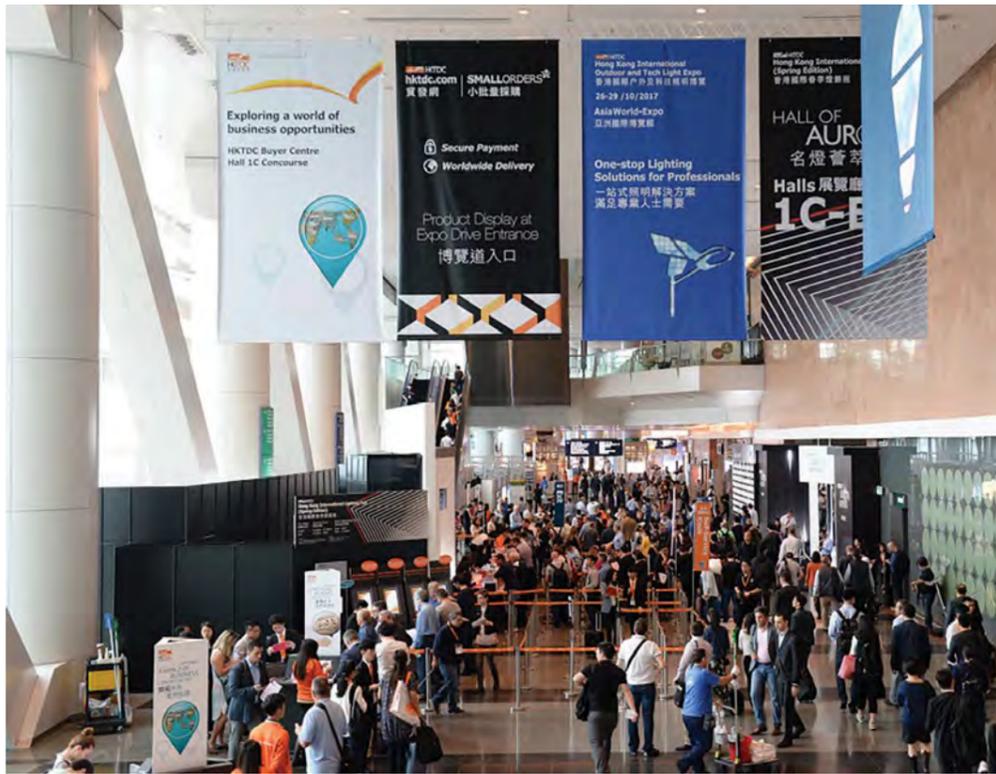


JOHANNESBURG Tel: 010 202 3300
 CAPE TOWN Tel: 021 510 0710
 PINETOWN Tel: 031 700 4215
 GERMISTON Tel: 011 418 9600
 RIVERHORSE Tel: 031 492 4800
 Distributors and Franchises throughout Southern Africa





HKTDC SPRING LIGHTING FAIR ROUND-UP



The ninth Hong Kong International Lighting Fair (Spring Edition), organised by the Hong Kong Trade Development Council (HKTDC), welcomed a record 1340 exhibitors from 13 countries and regions, and close to 21 000 buyers from 115 countries and regions, a 5.8 per cent increase over last year.

HKTDC acting executive director Benjamin Chau said a fairground survey indicated that the industry was optimistic about the lighting market's outlook for the coming year, with expectations of persistent demand for smart lighting and substantial growth in LED and green lighting sectors. A new 'Smart Lighting & Solutions' zone was introduced this year to showcase the latest smart lighting systems, remote controls and products, while 'LED and Green Lighting' remained the fair's largest thematic zone, attracting more than 450 suppliers. These zones offered quality products catering to the latest market needs.

The HKTDC commissioned an independent on-site survey during the fair, interviewing more than 373 exhibitors and buyers about their views regarding industry prospects. The survey found that 95 per cent of respondents expect overall sales of products to increase or remain unchanged this year, up 31 percentage points from last year.

Ninety two per cent of the respondents said they believed 'smart city and smart home' technology would drive development of the lighting industry in the next two years. The highest growth potential is seen in household lighting systems that can be controlled by smart phone/tablet applications, and in smart lighting systems primarily with energy-saving purposes for household/industrial/commercial applications.

POTENTIAL FOR COLOUR TUNING IN SENIOR CARE FACILITIES

Colour tuning is often used for aesthetic purposes – creating lighting 'scenes' or particular atmospheres. However, research suggests it could find a new home in healthcare facilities.

The Sacramento (Calif.) Municipal Utility District, the city's ACC Care Center and the U.S. Department of Energy (DOE) partnered to explore the potential health benefits colour tuning could have on residents of a senior-care facility.

The researchers wondered how different colour temperatures might affect residents' melatonin levels. Melatonin, a naturally occurring hormone, regulates sleep and wakefulness. A person's melatonin levels naturally rise and fall throughout the day. High levels occur at night, making a person sleepy, and levels fall during the day.

Researchers replaced some of the ACC Care Center's fluorescent lighting in one corridor, two resident rooms, the nurse station, the common family room and the administrator's office with tunable white light LEDs.

Following guidelines set by the Lighting Center of Rensselaer Polytechnic Institute, researchers tuned the lights so that they were likely to suppress melatonin production from morning to midday and less likely to suppress it in the evening and at night.

Lights in the corridor were programmed as follows: 7 am to 2 pm at 6500 K at 66 % output, 2 pm to 6 pm at 4000 K at 66 % output, and 6 pm to 7 am at 2700 K at 20 % output.

In two resident rooms, a cove lighting system was installed with the following script: 7 am to 2 pm at 6000 K, 2 pm to 6 pm at 4100 K, and 6 pm to 8 pm at 2700 K. It

included a 2400 K night light option from 8 pm to 7 am and a 3500 K wall light.

Amber LED rope lights under the bed, recessed amber LED night lights and motion-sensor lights integrated into bathroom handrails were installed so residents could navigate the room at night without overhead lighting. Amber light avoids wavelengths that make it most difficult to go back to sleep.

In August 2016, the DOE released 'Tuning the Light in Senior Care: Evaluating a Trial LED Lighting System at the ACC Care Center in Sacramento, Calif.,' a preliminary report about the project. The results documented a decrease in agitated behaviours, such as yelling and crying among three residents studied, a significant reduction in the need for psychotropic and sleep medications for one of the residents, a reduction in the number of recorded patient falls in the corridor studied, and, according to ACC staff, residents with rooms located elsewhere were now spending time in the LED-illuminated corridor.

"The study is too small to generate unquestionable conclusions," said David R. Errigo, National Lighting Bureau chair. "However, the study's results seem to validate many emerging hypotheses about both natural and electric lighting's ability to have vital impacts in healthcare facilities, especially those facilities that serve the needs of the elderly."

This article, written by Hannah Fullmer, appeared in the *Electrical Contractor magazine* and can be viewed at: <http://www.ecmag.com/section/lighting/potential-color-tuning-senior-care-facilities>

WHEN LIGHT MEETS ART

Pop-up lighting is a light fixture inspired by pop-up books. The idea was to turn everyday icons into artistic and elegant lamps. The clean shape of the lamp is amplified by the light's reflection on the wall, creating a 'wow effect', making the ambience in the room magical and reminding us of the excitement we felt when we opened our first pop-up book.

When Chen Bikovski was a child she loved pop-up books and the fantasy they created for her. As she grew up, those feelings

of magic and fantasy were harder to find, so she created Pop-up Lighting. She always felt there was something magical about light, and, with her passion for art and design she created a light fixture that would bring back feelings of magic into everyday lives.

The Deer Head lamp is a wall-mounted light fixture that can be used to light a multitude of spaces. It's a classic, nostalgic wall piece given a contemporary and sophisticated interpretation. When lit, the Deer Head lamp creates an ambience that is perfect for any situation.



Photo credit: Pop-up Lighting

The gold aluminium deer head is a wall mounted decorative lamp, made of painted, folded aluminium and steel. It is 39 cm x 35.5 cm when switched off and when the lights are on (3*4 LED module 2700 K, 120 lm-2.1 W), it becomes 75 cm x 70 cm of light and brilliancy.

Available in six colours (gold, silver, black, white, blue and pink), the lamp is UL and CE approved and offers two options of installation:

- Plug - fixture comes with a cord and on/off switch to be plugged into an electricity outlet.
 - Hardwire - can be wired to the electricity point in the room and switched on/off with the light switch (use professional electrician for installation).
- 'Pop-up Lighting' is a young Tel Avivian company lead by Chen Bikovski and Sarig Shinar. It specialises in lighting fixtures under the concept of lighting transforming into different fixtures in an artful way.

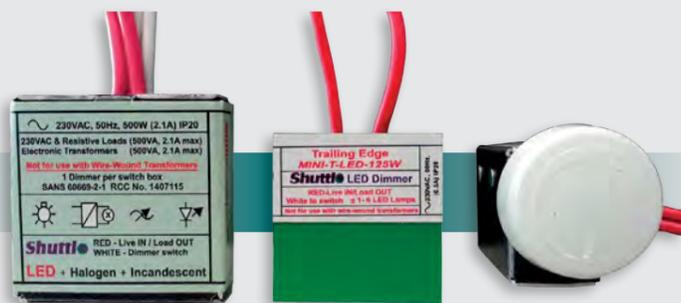
Enquiries: popuplighting.com

Shuttle

Dimmers for LED + Halogen + Incandescent

**TRAILING OR LEADING EDGE
125W, 500W AND 800W**

Deep dimming. No flickering. NRCS RCC certificate for CoC. Silent. **Recommended by all leading LED manufacturers.** Maximum load varies by lamp. Minimum load 1 lamp. Details available on website under Resources tab – www.shuttlelighting.com



DC LED DIMMER

New Dimmer for DC-Bell Press.
9-48VDC. 96W-Maximum 8Amp.
Specifications on our website.
All products available from leading wholesalers.

Enquiries: sales@shuttlelighting.com • Website: www.shuttlelighting.com
Head Office: 021 448 8229 • Laboratory: 012 991 2521



TWO NEW LED FITTINGS FROM REGENT LIGHTING

Regent Lighting Solutions has set the standards of excellence in lighting in South Africa for three decades. Continuing to push the limits of lighting design and technology, the company has introduced two new LED products to its industrial lighting range: the Holda and the Thora and both have been used in Jumbo Cash & Carry's recent lighting upgrade.

Holda is designed to operate a 200 W LED. Housed in extruded aluminium with a powdered coated finish, the 1217 x 135 x 92 mm fitting can be suspension or surface mounted. It has a system efficacy of 115 lm/W, colour temperatures of 4000 or 3000 K and a colour rendering index of >80. It has a lifespan of 50 000 hours and the electronic supply is suitable for operation with 220 - 240 V, 50 H, single phase. All external screws are of stainless steel and it is rated to IP65.

Designed for indoor and outdoor application the Holda is suitable for warehouse racking, workshops, factories, supermarkets, exhibition halls, industrial buildings and hangars. Emergency gear, motion detection and Dali dimming are available on request.

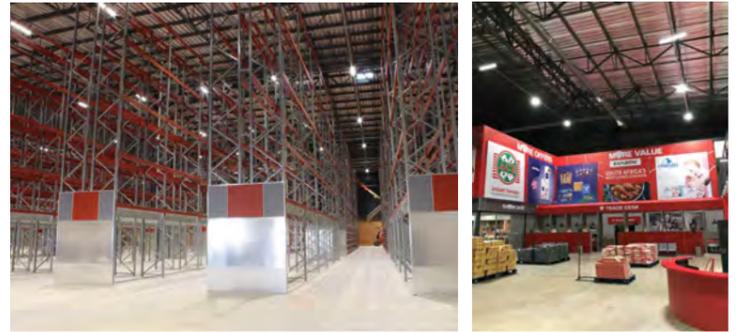
Thora is housed in a powder coated ADC12 aluminium fitting and is designed to operate a Philips 3030 LED up to 200 W. It can be suspension or surface mounted, offers a lifespan of > 50 000 hours and an efficacy of 115.6 lm/W. The Thora has a colour temperature of 4000 K and a colour rendering index of >70. The electronic

power supply is suitable for operation with 220 - 240 V, 50 H, single phase. All external screws are of stainless steel and the fitting is rated to IP65. Emergency gear, motion detection and Dali dimming available on request.

Suitable for indoor or outdoor applications, with its symmetrical light distribution, the Thora is ideal for workshops, warehouses, factories, supermarkets, exhibition halls, industrial buildings and hangars.

Whether creating light fittings, planning lighting solutions or offering customer service excellence, Regent's work is born from a desire to present solutions that enhance the lighting industry through an understanding of the African environment in which it works.

Regent Lighting Solutions: +27 (0)11 474 0171



Jumbo Cash & Carry in Crown Mines, JHB features Regent Lighting's Holda 200 W and Thora 200 W suspended from the ceiling between racking to provide the desired light output throughout. Further LED fittings, including the Lugo and Luxon panels, were used throughout the offices and checkout areas while the exterior of the building makes use of the Istria Trunion.

CFLS MAKE WAY FOR LUMI-FIT™

Two decades ago, compact fluorescents (CFL) became the lamp of choice over incandescents and, in doing so, offered building owners and users energy savings of 25-35%. Hot on its heels, LED was then hailed as the hero of energy saving but was far from without teething troubles. However, through the continuous improvement of LED chips, this technology has championed irritating issues concerning thermal, optical innovation and precise control; and the efficacy of light.

Warwick Webber, managing director of Aurora Lighting Africa, says, "Manufacturers have delivered on designing and manufacturing the most effective optics to reduce the overall energy consumption and increase the output of light where it's needed. Our Enlite range offers a wide range of LED products that enable companies to choose appropriate fittings to replace CFLs."

LEDs emit light in a specific direction and do not need diffusers or reflectors, increasing their efficiency for downlighting or task lighting.

New to the Enlite range, Lumi-Fit™ high performance LED downlights are a high specification fitting at an affordable price. The product range delivers up to an impressive 100 lm/W and up to 4380 lumens.

IP54 rated, and with multiple wattages and sizes on offer, Lumi-Fit™ meets the needs of countless applications, e.g., commercial offices, educational, council buildings and public toilets whether the project is simply retrofitting CFLs on a one-for-one basis in existing applications or selected for a new-build job.

With longevity in mind at L70 to 40 000 hours and a three-year warranty, life is not affected by frequent switching such as when used with occupancy controls. DALI compatible, fittings are supplied with a remote driver and are fitted with an acrylic diffuser to reduce glare and for even light distribution. There's a plug and play remote driver for easy installation and a DALI plug and play driver is available to order.

Enlite's Lumi-Fit™ commercial downlights range is a top choice among a portfolio of more than 370 'best-in-class, best-for-value' lighting solutions and one of 160 new products. Available in over 10 countries worldwide, Enlite is now the 'go to range of choice' for electricians and wholesalers alike and can be viewed at enlitemlighting.com.

Enquiries: +27 (0)11 234 4878

electrozone electrical

MASSIVE SALE
Valid until 30/06/2017 OR while stocks

R14.95
3W LED candle coolwhite

R18.95
Eezi-on light

10W-R69.95
20W-R115.00
50W-R199.00
LED Floodlights

R235.00
20mm Conduit pipe

R19.95
GU10 LED 5W Coolwhite/Daylight

R15.95
GU10 LED 3W Daylight

1.5mm-R499.00
2.5mm-R749.00
100 m Flat twin and Earth

R15.50
Jam Jar

R19.95
60W PVC Bulkhead

R99.00
30 m Fish tape steel

4x2-R2.75
Galvanised wall box

4x2-R20.00
Weatherproof Enclosures

4x4-R46.00
Weatherproof Enclosures

R53.50
DownlightKit swivel

R41.00
DownlightKit Fixed

4x4-R2.99
Galvanised wall box

R558.00
QA17C CBI 63A Earth Leakages

• Many more bulk in store specials • All products NRCS compliant • 1 year Warranty offered on all products • All prices including VAT.

SCAN QR CODE TO VISIT OUR WEBSITE

Address: Electrozone Electrical | NO 8 DISCOVERY DRIVE | CROWN MINES | JOHANNESBURG | 2092 |
Website: www.electrozone.co.za | Telephone: 011 833 1075 |
Cell: 082 762 6811 | Fax: 011 833 0609



BEARINGS INTERNATIONAL KZN BRANCH - DURBAN



Trevor Veeradu – regional manager

INSTROTECH



Grant Suttie sales manager

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



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

BRIGHT SPARK

TRIP

Trip 1: He takes the goat with him, leaving the lion and the vegetables behind. On reaching the other riverbank, he drops off the goat. Trip 2: He then comes back for the lion, leaving the vegetables behind. On reaching the bank this time, he drops the lion, and again takes the goat along. Trip 3: He drops off the goat again and takes the vegetables with him to the other shore. Trip 4: Lastly, he comes back alone for the goat.

MAY SOLUTION

THE PASSWORD

The old one was "out of date." The new one is "different." Both passwords contain the letters d, f, e, and t.

JULY FEATURES

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

Buyers' guide

- Cables and cable accessories

Deadlines

- Advertising booking: 26 May 2017
- Editorial: 5 June 2017
- Advertising material: 12 June 2017

Editor:

Karen Grant

Assistant Editor:

Tshimangadzo Mphaphuli

Advertising:

Carin Hannay

Design:

Anoonashe Shumba

Consultant:

Ian Jandrell PrEng, BSc(Eng), GDE, PhD, FSAIEE, MIEEE

Publisher:

Karen Grant

Deputy publisher:

Wilhelm du Plessis

Published monthly by:

Crown Publications cc
P O Box 140
Bedfordview, 2008
Tel: (011) 622-4770
Fax: (011) 615-6108

e-mail: sparks@crow.n.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 6812 per month.



HERE TO LIGHT THE WAY



STARLIGHTS



GARDEN LIGHTS



LED LAMPS



DOWNLIGHTS



CEILING LIGHTS



FLOODLIGHTS

LIGHTEN UP WITH STYLE

Add the finishing touches to your ideal home with Major Tech's wide range of stylish and environmentally friendly, cost effective LED lights and lamps. Brighten up your garden pathways with our beautiful range of garden lights, create the perfect atmosphere with our unique range of ceiling lights, starlights & downlights, and keep safe and see everything with our powerful range of floodlights.

Contact Us

Branches:

Johannesburg 011 872 5500 Cape Town 021 556 3091 Durban 031 569 1024 Port Elizabeth 041 452 1172 Bloemfontein 051 430 4958



email: sales@major-tech.com
www.major-tech.com

