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After much deliberation, the industry and government stakeholders agreed on the next steps for the controversial battery storage standards.

The stakeholders reached a broad agreement on a way forward that will see Standards Australia, industry and government working together to fast-track the development and adoption of appropriate product safety standards. Once implemented, these standards will enable the continued rollout of residential on-site battery systems and, more importantly, meet community safety expectations.

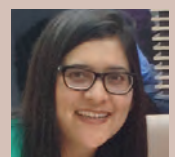
Safety is an important issue, regardless of the industry. Safety should be a top priority for everyone all year round, but Safe Work Australia's National Safe Work Month initiative — celebrated in October every year — offers a reminder to improve safety at work. This year's theme was 'Sharing safety knowledge and experience benefits everyone'. As a part of the initiative, the Australian Government statutory body encouraged businesses and workers to share the things they do, both big and small, that make their workplace safer and healthier.

Work-related injury and disease cost the Australian community \$61.8 billion in a year, according to the latest statistics by Safe Work Australia. Workers bear around 77% of this cost. While the fatality rate has decreased by 49%, there's still work to be done.

When purchasing or installing products, it's important to keep electrical safety in mind. The lead article in this issue talks about non-compliant products and product liability. As an industry stakeholder, it's important that you are aware of your rights and responsibilities.

Best regards,

Mansi Gandhi – Editor
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IS PRODUCT LIABILITY INSURANCE SNAKE OIL?

Ben Robertson

With the senate inquiry into non-conforming building products (the Senate Inquiry) underway, building industry stakeholders have reported a concerning rise in defective building products being imported into Australia.



Whether it is faulty cables, flammable cladding or exploding glass balconies, potential liability as a result of non-conforming or non-compliant building products should not be underestimated, and building industry stakeholders should consider product liability insurance as a means of de-risking their businesses.

The global-local challenge

We live in a global economy that brings with it a number of advantages. It also allows the importation of cheap building materials into Australia, at times without the appropriate control mechanisms in place.

Global free trade has led to a very local problem when inferior products are imported. The impact of inferior imported products affects industry stakeholders along the supply chain within Australia, and while generally the buck may stop with the importer, if that business is wound up then other contractors along the supply chain will bear the cost of a product failure.

The use of non-conforming building products and non-compliant building products carries a risk of injury, death and substantial property damage costs. When an inferior or inappropriate product fails there can be complex legal issues to untangle, which can prove costly for consumers and building industry stakeholders who find themselves drawn into the issue.

The stakes can be high when there is a catastrophic product failure, seen recently with the fire involving combustible cladding in the Lacrosse Apartment building in 2014, which luckily did not involve any loss of life, thanks to a sprinkler system that performed above and beyond its specifications, a well-orchestrated evacuation, a timely response by firefighters and favourable weather conditions.

The Senate Inquiry has been told that the owners of the Lacrosse building have a damages claim in excess of \$15m, with \$6m having been spent to date on the building and an estimate of a further \$9m

to remove and replace the combustible cladding¹.

Imported products

With the Senate Inquiry underway, industry stakeholders have reported a concerning trend in problems with the importation of non-conforming building products. The Senate Inquiry has heard of problems with the reliability of documentation and certification of imported products, and in some cases documentation which was said to be fraudulent and inadequate².

Problems with imported building products recently include:

1. Premature failure of the insulation of Infinity electrical cables, outlined in further detail below.
2. Asbestos tainted concrete fibre sheeting from China, certified as free of asbestos³.
3. Spontaneous glass breakage in high-rise buildings due to the presence of nickel sulfide causing an inherent weakness when glass is subject to extreme variations in temperature⁴.
4. Combustible aluminium polyethylene composite cladding used in high-rise buildings⁵.

Infinity cables — a case study

A recent example of a massive product failure has been seen with the importation of problematic Infinity electrical cables from China into Australia by Infinity Cable (under external administration) (ICC).

In August 2014, the ACCC instituted a recall of infinity electrical cables on the basis that the insulation of the cables was prone to premature failure resulting in electrocution and fire risks.

As at April 2016, from the 3900 km of the problematic cabling that had been installed nationwide there was still 2300 km remaining, with NSW containing the highest amount of the cable at 1657 km⁶.

At last count there were 38 cable suppliers in NSW who are affected by the mandatory recall⁷.

The director of ICC, Lu Luo, pleaded guilty on 14 September 2016 to sell-



WITH A HUGE AMOUNT OF THE PROBLEMATIC CABLING REMAINING, CONTRACTORS WHO HAVE INSTALLED INFINITY CABLES AND NOT YET TAKEN STEPS TO REMEDIATE THE CABLES IN ACCORDANCE WITH THE MANDATORY RECALL MAY BE SUBJECT TO LIABILITY IN THE EVENT OF LOSS OF LIFE, INJURY OR PROPERTY DAMAGE AS A RESULT OF ANY FAILURE OF THAT PRODUCT.

ing the non-compliant electrical cables imported from China to Masters Home Improvement in breach of the *Electricity (Consumer Safety) Act 2004* (the Act). Luo has been fined \$18,000 and ordered to pay \$15,000 in costs by the Supreme Court of NSW, but the economic impact on other stakeholders in the supply chain is far greater.

Those suppliers of the cable, which are not alleged to have been in breach of the Act, have been left with bearing the costs of the recall. And where the supplier cannot be identified by the electrician, then it is the electrician who is left with the cost.

With a huge amount of the problematic cabling remaining, contractors who have installed Infinity cables and not yet taken steps to remediate the cables in accordance with the mandatory recall may be subject to liability in the event of loss of life, injury or property damage as a result of any failure of that product.

De-risking your business

Building industry stakeholders should give consideration to obtaining product liability insurance with a view to mitigating risks that occur with faulty building products.

Care should be exercised before purchasing insurance and professional advice sought to ensure that you understand the product that you are purchasing and the impact of any exclusion clauses.

By way of analogy, in the context of professional indemnity insurance the Australian Institute of Building Surveyors recently warned its members that insurers were looking to broadly worded exclusion clauses to decline indemnity under professional indemnity policies for claims based on failure of Aluminium Composite Cladding and non-conforming or non-compliant products generally.

Care should be taken with the purchase of a product liability insurance product to ensure that the risks you are seeking to mitigate will be covered in the event that you face a product failure that causes death, injury or property damage and a resultant claim on your business.

Consideration should be given to exclusion clauses and policy wording in order to ensure that your business has an appropriate level of insurance coverage for its business risk. By way of example particular regard should be given to how the policy approaches the points below:

- the definition of your products;
- faulty or defective workmanship;
- use of non-compliant products vs non-conforming products;
- asbestos; and
- compliance with relevant Australian Standards.

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1. *Interim report: Aluminium Composite Claddings, Economics References Committee, Non-Conforming Building Products Inquiry, September 2017 p 8*
2. *Interim report: Aluminium Composite Claddings, Economics References Committee, Non-Conforming Building Products Inquiry, September 2017 pp 25-27*
3. *Dozens of Australian Building Sites Contaminated By Illegal Chinese Asbestos Imports, Authorities Say, ABC News, 15 February 2016*
4. *Exploding glass balconies in Melbourne apartments expose faulty building products, The Border Mail, 2 June 2017*
5. *Interim report: Aluminium Composite Claddings, Economics References Committee, Non-Conforming Building Products Inquiry, September 2017*
6. *2,300km of dangerous Infinity electrical cable remains in homes, ACCC Media Release, 14 June 2016*
7. *Infinity Electrical Cable Safety Recall, NSW Fair Trading Fact Sheet, April 2017*

Cable Assembly & Box Build Assembly



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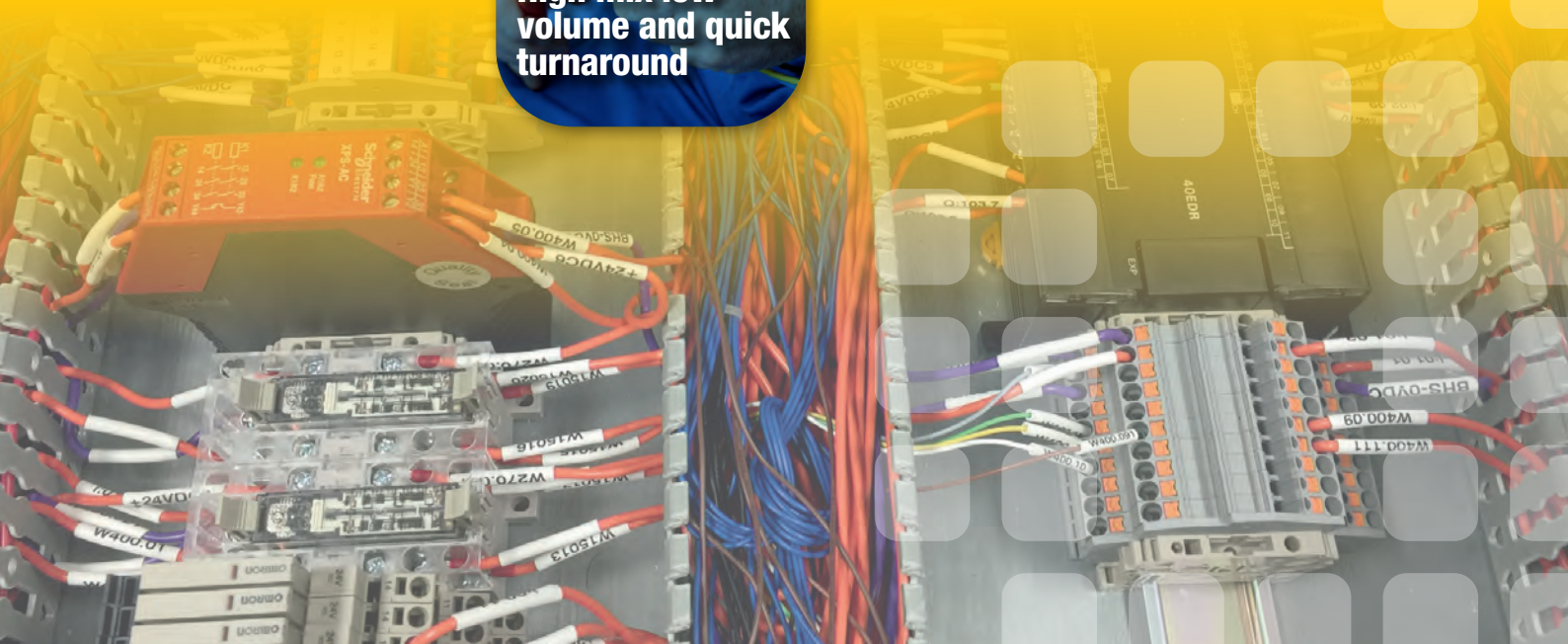
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MPOWER APPOINTS LINIX LIGHTING AS QLD AGENT

MPower has appointed Linix Lighting Solutions as its Queensland agent for BARDIC emergency lighting products and systems.

Founded in 1998 as a small lighting business, Linix is now a global group of companies. Its experienced local sales force provides support to both the public and private sector. The company's Queensland-based head office and warehouse facility also ensures fast and reliable service to local customers.

MPower's BARDIC brand will enhance Linix's product portfolio and strengthen its market offering. BARDIC's team of qualified and skilled design engineers, product development, research and sales personnel will work together with Linix's knowledgeable and experienced team to service customers in Queensland.

MPower General Manager Adrian Harders said, "BARDIC continues to deliver on its 40+ year reputation in the lighting industry as the go-to brand in Australia and New Zealand. We are always looking to strengthen our offering on a national level and this partnership with Linix certainly reinforces that quality commitment, to provide the best products and the highest level of customer service to Queensland."

Both the companies are also planning to hold emergency and exit lighting training workshops in Queensland in association with the Qld Chapter of the National Electrical and Communications Association (NECA).



BETTER PROTECTION FOR WORKERS AS NEW FAIR WORK LAWS COME INTO EFFECT

The *Fair Work Amendment (Protecting Vulnerable Workers) Act 2017* has now come into effect, with higher penalties for serious contraventions of workplace laws and record-keeping breaches.

New obligations extending liability for underpayment and other breaches in franchise and subsidiary networks to head offices started on 28 October 2017.

The changes apply to all employers, companies and employees covered by the Fair Work Act but are particularly important for: franchisors and holding companies; vulnerable employees; people or companies who do not voluntarily cooperate with Fair Work Ombudsman investigations.

The Fair Work Ombudsman has published a range of information and resources on its website at www.fairwork.gov.au aimed at assisting all workplace participants to understand and comply with their obligations.

This includes information on who the changes affect, what the changes mean for you and what the changes are. The Act includes a range of measures including an increase in the maximum penalties for employers who deliberately flout the minimum wage and other entitlements under the *Fair Work Act 2009*. James said employers also need to make sure they are meeting pay slip and record-keeping obligations.

James said employees should be aware that strengthening of laws relating to cashback schemes means that if their employer requires an employee to use their own money unreasonably, or makes an employee give some of their pay back to their employer or another person, this could be unlawful.

Franchisors and holding companies could be liable if their franchisees or subsidiaries don't follow workplace laws, so it is important for them to make sure they take reasonable steps to prevent breaches of workplace laws in their networks, said James.

"The Fair Work Ombudsman will apply the laws judiciously and fairly, and work with business to ensure employers understand their obligations under workplace laws. Employers should always check their obligations, either by accessing our free and comprehensive tools on our website, or asking their employer organisation or another qualified workplace relations adviser.

"But for those who are underpaying workers, failing to keep proper records or coercing workers to pay their wages back in cash, we will not hesitate to deploy the full set of tools in our toolbox, including using the new examination powers and seeking maximum penalties from the courts.

Employees can get help resolving workplace issues and also report a workplace concern anonymously on the Fair Work Ombudsman's website.

The Fair Work Ombudsman's 'Record My Hours' smartphone app is aimed at tackling the persistent problem of underpayment of vulnerable young workers by using geofencing technology to provide workers with a record of the time they spend at their workplace. The app can be downloaded from the App Store and Google Play.

Employers and employees seeking assistance can also contact the Fair Work Infoline on 13 13 94. A free interpreter service is available on 13 14 50.

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GUIDANCE NOTE FOR SMART CITY STANDARDS RELEASED

The Smart Cities Council Australia New Zealand (SCCANZ) has released a new guidance note with an aim to raise awareness of standards and frameworks related to smart cities.

The purpose of the guidance note, prepared in collaboration with Professional Construction Strategies Group (PCSG), one of SCCANZ's member companies, is to provide an overview of the ecosystem of smart city standards available globally, the benefits of their use and a structured list of some key standards and frameworks..

The release follows a recent roundtable of government, private sector and industry representatives, along with standards bodies, to discuss and identify opportunities for ensuring smart cities standards play a necessary role in catalysing and scaling solutions to advance sustainability through technology, data and digital transformation. The event was convened by SCCANZ.

Adam Beck, executive director of SCCANZ, said, "We have an opportunity in Australia to embrace the rich ecosystem of smart cities standards and frameworks available throughout the world, and ensure we create a common understanding and shared purpose when applying technology and data solutions in our cities and towns. It is fundamental that we at least acknowledge the support that is available through these resources and be open to applying them, at least in a voluntary way."

PCSG's consulting director for Asia Pacific, Gavin Cotterill, said, "Our goal is to provide readily available information to government and industry on the diverse library of smart cities standards and frameworks around the world.

"Experience from mature markets such as the UK, and more broadly Europe, show that when government and industry work closely together on creating, applying and promoting standardisation, market opportunities are created and outcomes are aligned with a shared vision," Cotterill said.



NEW REQUIREMENTS FOR SLEEVING OF CONDUCTORS

The Australian Standard AS/NZS3000 (the Wiring Rules) is being updated and due to be published later this year.

It will include some changes to the requirements of sleeving of conductors and clarification on the segregation of different electrical installations, according to an update by the Queensland Electrical Safety Office.

"When alterations or repairs are carried out that require new terminations or junctions to existing bare or green earth conductors, all of those conductors need to be sleeved with green/yellow sleeving within each of the new cable junctions or terminations."

Similarly, where alterations or repairs are carried out on conductors with yellow insulation that require new terminations or junctions, all those conductors need to be sleeved with white sleeving at each of those new cable junctions or terminations, states the update.

"For different electrical installations, the requirements have been clarified.

This includes not allowing conductors to be installed in the same pipe, tube, conduit or the same multi core cable where the conductors form part of different electrical installations. This includes installations where conductors form part of individual occupancies of single or multiple electrical installations."

For more information, watch the Queensland Electrical Safety Office's film, visit electricalsafety.qld.gov.au or call 1300 362 12.



THE WIRING RULES TRANSITION ARRANGEMENTS

The new edition of AS/NZS Wiring Rules (AS/NZS 3000) is expected to be published in early 2018.

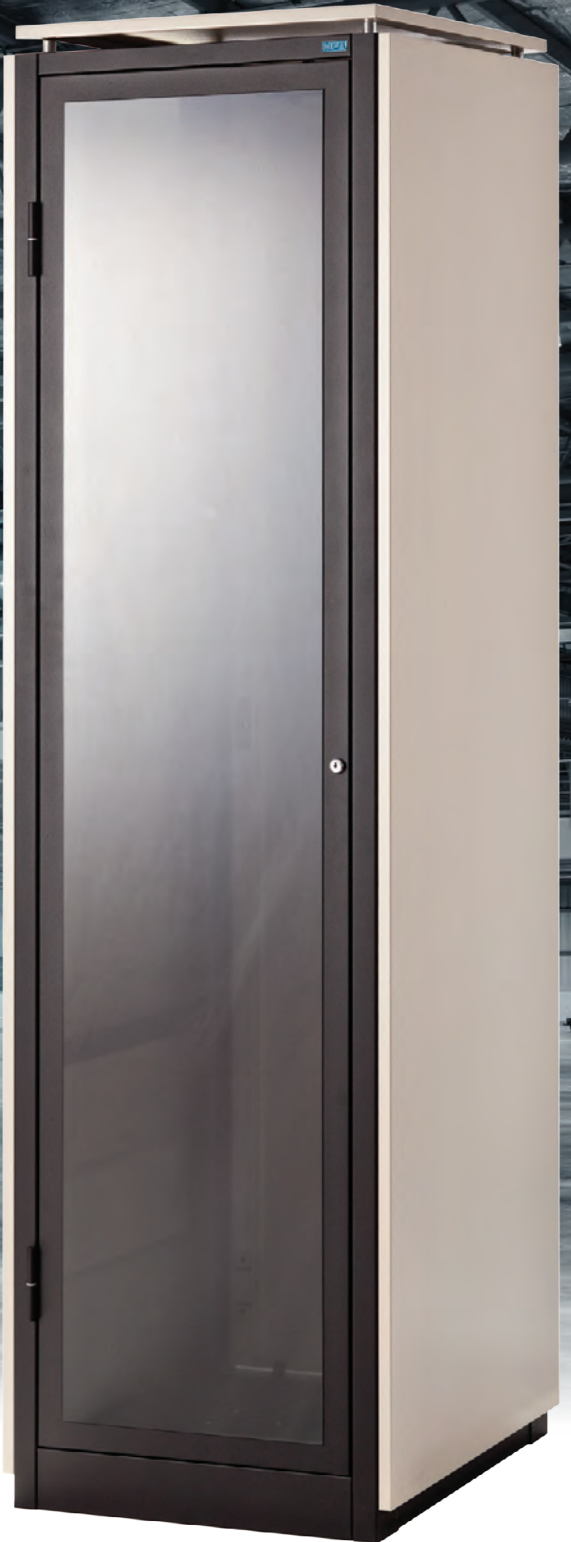
Transitioning from one edition of the Wiring Rules to the next can impact on the compliance requirements for an electrical installation.

The Queensland Electrical Safety Office has announced that in order to enable a smooth transition the enforcement date for the new edition of the Wiring Rules will be six months after the publication date of the standard.

The following exceptions will allow the 2007 Wiring Rules to be applied beyond the enforcement date:

- Electrical work commenced prior to the publication date of the new standard where the project will continue beyond the enforcement date.
- Electrical work quoted for prior to the publication date of the new standard and for which a contract has been awarded and the project may continue beyond the enforcement date.
- Electrical work costed and designed prior to the publication date for projects such as shopping complexes and large residential and industrial buildings that may not commence construction until after the enforcement date.

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WIRING RULES — REQUIREMENTS FOR RECESSED LUMINAIRES AND POOL AREA INSTALLATIONS

The new edition of the Wiring Rules, due in early 2018, will include changes to the requirements of recessed luminaires and pool area installations, according to an update by Queensland Electrical Safety Office.

In the Australian Standard AS/NZS3000 (the Wiring Rules), the section on recessed luminaires has been rewritten to make it easier to understand. Recessed luminaires will have new classifications. For example, luminaires will require markings that will indicate if they can be installed against, or covered with, thermal insulation, according to the statement.



“The new edition will also include ancillary equipment such as drivers and transformers. To help explain this approach, the new edition will include a series of new drawings and tables that explain each classification and location where luminaires can be installed.”

There are also some changes to the requirements for pool area installations, in particular bonding arrangement and the location of electrical equipment. For example, there is a new condition requiring all conductive pool structures being bonded to the installation earthing system, regardless of other requirements specified in the standard.

The new edition will include a diagram depicting an example of bonding arrangements for pools and spas. The requirement prohibiting switchboards being located in any classified zone still exists, with the scope of this requirement being extended to electrical generating systems.



GBCA CEO RECEIVES INTERNATIONAL SUSTAINABILITY AWARD

Romilly Madew, CEO of the Green Building Council of Australia (GBCA), has received the World Green Building Council (WorldGBC) Chairman's Award.

Madew received the award from Tai Lee Siang, WorldGBC Chairman, at a ceremony in Jaipur, India.

The WorldGBC Chairman's Award honours people who have contributed to the transformation of the global property and construction industry.

“Since 2006, Romilly has been at the forefront of a global movement to change the shape of our buildings, communities and cities,” Tai said.

“Not only has Romilly been instrumental in transforming Australia's building industry through her sustained leadership and advocacy, but she has played a vital role at the global level.”

Under Madew's leadership, the GBCA has certified more than 1715 sustainable buildings, communities and fit-outs under the Green Star rating system.

Today, 37% of Australia's office space has Green Star certification. Schools, hospitals, libraries, community centres, apartments, industrial facilities and the Sydney Opera House have achieved Green Star ratings.

NEW STANDARD FOR PLUGS AND SOCKETS RELEASED

Standards Australia has released a new edition of the standard for plugs and sockets used in Australia and New Zealand, AS/NZS 3112, Approval and test specification - Plugs and socket-outlets.

The standard provides the electrical industry, including manufacturers, test laboratories and regulators, with requirements and test methods for plugs and socket outlets.

The major changes to the standard include:

- Specifications for detachable plug portions are now included
- Dimension requirements for plugs and sockets clarified through revised and added diagrams
- Plug and socket configurations have been clarified
- Updated testing requirements for:
 - Ingress protection (IP)
 - Non-detachable parts
 - Insulation piercing terminals

Chair of the technical committee EL-004, Electrical Accessories, Dennis Galvin commented on this revision. “The changes to AS/NZS 3112 will significantly benefit manufacturers during design and production but also test laboratories, regulators and certifiers when assessing compliance to the standard,” said Galvin.

Standards Australia CEO Dr Bronwyn Evans explained the importance of this publication. “In the absence of an international standard for plugs and sockets, it is important that national standards bodies regularly review their standards to accommodate technological change and the effects of globalisation,” said Evans.

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CYBER ATTACKS AND GRID DISRUPTION

Around 63% of utility executives believe their country faces at least a moderate risk of electricity supply interruption from a cyber attack on electric distribution grids in the next five years.

The figure is based on global consulting and professional services company Accenture's new report *Outsmarting Grid Security Threats*. The company surveyed more than 100 utilities executives from over 20 countries for the report that reveals interruptions to the power supply from cyber attacks as the most serious concern, cited by 57% of respondents. The respondents were equally worried about the physical threat to the distribution grid with 53% of executives citing employee and/or customer safety, and 43% of executives citing the destruction of physical assets as their biggest concerns.

"As highly sophisticated, weaponised malware is being developed, a greater risk to distribution businesses arises from cybercriminals and others who would use it for malicious purposes," said Stephanie

Jamison, managing director, Accenture Transmission and Distribution.

"Attacks on industrial control systems could disrupt grid reliability and the safety and wellbeing of employees and the public. Not getting it right could be a brand killer, as well as a real threat for a country and the community."

While the increased connectivity of industrial control systems enabled by the smart grid will drive significant benefits in the form of safety, productivity, improved quality of service and operational efficiency, 88% agreed that cybersecurity is a major concern in smart grid deployment. Distribution utilities are also increasingly exposed by the growth of connected Internet of Things (IoT) domestic devices, such as connected home hubs and smart appliances. These bring a new risk to distribution companies, which is hard to quantify, with



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77% of utilities executives suggesting IoT as a potential threat to cybersecurity.

In Asia Pacific and Europe, cybercriminals are seen as the biggest risk for distribution businesses by almost a third of respondents. However, in North America, attacks by governments are considered a bigger risk than in regions worldwide (32%).

“Deployment of the smart grid could open new attack vectors if cybersecurity is not a core component of the design,” added Jamison. “However, the smart grid can also bring sophisticated protection to assets that were previously vulnerable through improved situational awareness and control of the grid.”

Utilities must improve cybersecurity capabilities and develop a resilient delivery system. A significant number of distribution



DEVELOPING THIS NEW CAPABILITY WILL REQUIRE ONGOING INNOVATION, A PRACTICAL APPROACH TO SCALING AND COLLABORATION WITH PARTNERS TO DRIVE THE MOST VALUE.

utilities have much to do in developing a robust cyber response capability with more than four in 10 respondents claiming cybersecurity risks were not, or were only partially, integrated into their broader risk management processes.

In addition, the increasing convergence of physical and cyber threats requires the development of capabilities that go well beyond simple security-related national compliance requirements. Utilities must invest in resilience of their smart grid as well as effective response and recovery capabilities.

Proper protection is challenging due to the complexity of distribution electric grids and increasingly sophisticated, well-funded attackers, and many distribution utilities are still underprotected and underprepared. Only 6% felt extremely well prepared and 48% well prepared when it came to restoring normal grid operations following a cyber attack.

“Cybersecurity must become a core competency in the industry by protecting the entire value chain and the extended ecosystem end to end. Utilities, already well versed in reliable power delivery and power restoration, need an agile and swift capability that creates and leverages situational awareness, and that can quickly react and intervene to protect the grid,” said Jim Guinn, managing director, who leads Accenture’s security practice for resources industries. “Developing this new capability will require ongoing innovation, a practical approach to scaling and collaboration with partners to drive the most value.”

While there is no single path forward, there are some moves any distribution business should consider to strengthen resilience and response to cyber attack, such as: integrate resilience into asset and process design, including cyber and physical security; share intelligence and information as a critical activity that could help create situational awareness of the latest threat landscape and how to prepare accordingly; and develop security and emergency management governance models.



REDUCING THE RISK OF ELECTRICAL FIRES IN LV RESIDENTIAL INSTALLATIONS

Short circuit, overcurrent and earth faults are widely understood and protected against in low-voltage residential installations, but some hidden sources of ignition — such as arc faults — are not always easy to identify.

Latest statistics show electrical issues are a leading cause of residential fires in Australia, with around 40% of residential fires in NSW caused by electrical appliances or faults. In Tasmania, they are the third leading cause of fires. Complete protection is, therefore, absolutely essential.

Recognising the risk of arc faults, Europe and America have already put in place safety standards relating to the installation of arc fault detection devices. Australia will soon follow suit, with the AS/NZS 3000 electrical installations standard (the Australian/New Zealand Wiring Rules) due to be released early next year, with recommended guidelines around arc fault detection devices to be included.

For the industry, electrical safety risks range from overloaded power points and damaged outlets, right through to inadequately maintained installations. Arc faults occur at nominal or low current, making them difficult to detect manually. Some common causes include: pulling cables out of a power point repeatedly without care; crushing the cable between objects, eg, a door and door jamb; or cables being damaged by rodents or pets. In some cases, an arc fault can also be caused when wiring becomes loose at the terminal connection.

Broken or damaged wires can also lead to small arc currents, burning and degrading insulation over time. They are mostly identified by high frequency (HF) electrical noise and the breakdown of the fault current close to the zero-crossing of the driving voltage.

Serial arc faults are the most common, originating from a fault within the phase or neutral conductor. They can go undetected for a long time. Parallel arc faults originate from a fault between phase and neutral, with the total current in the circuit increasing depending on load impedance and fault impedance.

While safety switches and circuit breakers for overcurrent protection can be effective in reducing the risk of electrically ignited fires, they cannot identify arc faults — therefore, the addition of arc fault detection devices is required to ensure protection against all faults.

Arc fault detection devices divide the measured current of each final subcircuit into a low-frequency and a high-frequency share. These two signals are used as the basis for electric arc identification — they are analysed by a microcontroller to determine whether they display the characteristic HF signals of an arc fault and, if identified, automatic disconnection of the affected subcircuit will be triggered.

They are not designed as an alternative to residual current devices or circuit breakers for overcurrent protection. Instead, they work in partnership with RCDs and MCBs to provide a comprehensive switch-board safety solution. However, some arc fault detection devices also incorporate RCD and MCB functionality in a single compact unit.

A number of standards-related changes are arriving soon in Australia. One expected change relates to guidelines on the use of arc fault detection devices in final subcircuits for locations storing flammable material, fire propagating structures and premises with sleeping accommodation.

The new guidelines are not expected to be mandatory but they present an opportunity to better understand the risk of arc faults. For most electrical contractors, this means understanding the proposed safety standard guidelines for arc fault detection devices — and getting to know what safety products and new protection technologies are available in Australia.

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*Model dependent



Voice data and video cable verifier

The IDEAL Networks VDV II easy-to-use cable testers check the integrity of copper cables in voice data and video installations including telephone wiring, data networking and video/security cabling.

Advanced TDR measures cable length and providing distance to fault information. The testers are also fast, identifying wiring errors instantly and displaying the results all on one screen. The intelligent cable testers can quickly determine which media service is running over cables, such as ISDN, PBX and POE. Available versions include the VDV II, VDV II Plus and VDV II Pro.

IDEAL INDUSTRIES (AUST) Pty Ltd
www.idealnetworks.net



Module fibre-optics test

The VeEX VePAL TX300s-OTDR module fibre-optics test option is an all-in-one optical and service test platform. It adds a full range of optical test features that support OTDR, OPM, light Source and VFL. Together with advanced OTN, SDH/SONET, PDH/DSn, Ethernet, fibre channel and synchronous packet networks support, the TX300s offers a complete network test solution from physical layer up to higher layers of multiservice performance testing.

The product has flexible software architecture that supports dual test applications running simultaneously, as well as ReVeal PC software to maintain instrument firmware, manage test configurations, process measurement results and generate customer test reports.

It has Fiberizer Desktop PC software for fibre trace analysis; Fiberizer Cloud based trace analysis and data management; and R-server support for centralised work force management and test results repository.

Key features include FTTx/PON optimised parameters for best-in-class dead zones for 1xN splitters and normal reflective events; multimode and singlemode wavelength test options — 850, 1300, 1310, 1490, 1550 and 1625 nm; filtered 1625 nm OTDR port for in-service measurements and live fibre detection with embedded power meter; high dynamic range (up to 45 dB) for long haul fibres and testing through high-port-count PON splitters; sampling points up to 256,000; event dead zone <1 m, attenuation dead zone <4 m; Telcordia GR-196 and SR-4731.sor file formats; optional V-Scout mode — Intelligent Link Mapping using intuitive icons derived from multiple test acquisitions; optional built-in visual fault locator, optical power meter and light sources; optional fibre inspection scope (USB); SyncE and IEEE 1588v2; OTN, SDH/SONET, PDH/DSn; Ethernet and fibre channel; and CPRI and OBSAI testing.

TelecomTest Solutions
www.telecomtest.com.au

Energy sensor

The Schneider Electric PowerTag energy sensor is designed to enhance the monitoring of electrical assets.

The sensor has been designed for any type of building with the energy sensor easily able to monitor and measure currents, voltages, power, power factor and energy. The connection enables greater availability of electrical assets by providing the ability to better manage critical loads, which leads to higher reliability and efficiency of the electrical installation.

It works by wirelessly sending data to a concentrator that displays the data via in-built webpages, or to larger energy management systems or the building management system. Data can also be leveraged to create customised email alerts that assist facility managers with remote monitoring of their assets.

The sensor is built to easily connect to a miniature circuit breaker and provides building owners and facility managers with precise, powerful and real-time data to increase the health of a facility's strategic assets.

Schneider Electric
www.schneider-electric.com.au

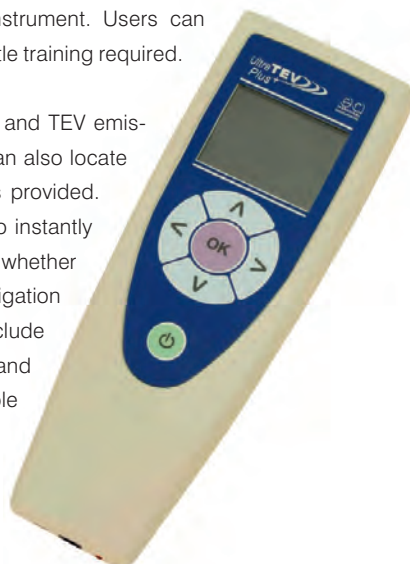
Multifunctional partial discharge instrument

The UltraTEV Plus+ is a combination of the dual-sensor UltraTEV Detector and ultrasonic UltraMet Plus+ in one handheld instrument. Users can measure data on partial discharge (PD) activity with little training required. The product is available for rent at TechRentals.

The device detects and measures both ultrasonic and TEV emissions as numerical values for easy analysis. Users can also locate and listen to ultrasonic PD activity with headphones provided.

With little training required, the unit allows users to instantly check whether assets are free of partial discharge or whether the PD activity is at a level which warrants further investigation or immediate maintenance intervention. Features include one-shot or continuous measurement; a lightweight and ergonomic design; an IP65 rating; and a rechargeable Li-ion battery.

TechRentals
www.techrentals.com.au





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Electrical testers

The Fluke T6 Electrical Testers with FieldSense technology allow electricians to measure, not just detect, voltage and current without test leads.

The testers make it possible to take reliable true-rms measurements in crowded junction boxes or along conductors with inaccessible end points, saving time, minimising potential errors and reducing the possibility of arc flash.

Other features of the Fluke T6-600 and T6-1000 testers include: measure voltage up to 1000 V through the open fork without test leads or exposed conductors; with no need to open panels or remove wire nuts, electricians can speed through troubleshooting; simultaneously measure and display voltage and current on the T6-1000.

The T6-1000 also measures resistance up to 100.0 kΩ; the T6 testers measure 4/0 wires with current up to 200 A.

The FieldSense technology enables the testers to give simultaneous, reliable voltage and current readings, not just simple go/no-go voltage detection. The rugged testers are 1000 V CAT III, 600 V CAT IV safety rated (600 V CAT III for the T6-600 model) and feature an easy-to-read display with a backlight.

Fluke Australia Pty Ltd
www.fluke.com.au



Integrated cabling solution

The HypaConnect ICS combines the latest in optical fibre and copper connectivity infrastructure into a single ubiquitous platform, capable of supporting many ICT and business critical applications, and is a key piece of building infrastructure.

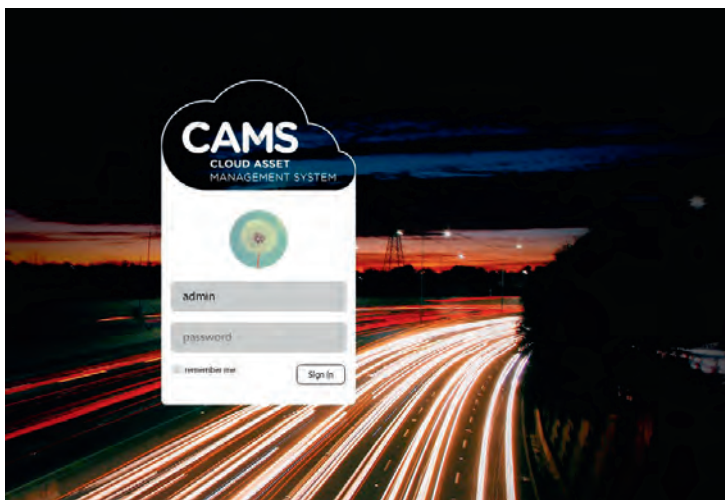
The HypaConnect HY series is designed to take a network to the next level by providing performance, reliability, customer support, as well as improved installation time, thereby reducing the total cost of network ownership.

The solution includes the latest in Category 6A UTP and STP technology, with fast installation modular jacks, outlets, Category 6 patch panels and much more. In addition, with a full range of optical fibre solutions, including optical distribution frames, patch panels and patch cords, there is a solution for any application.

The component level specifications exceed the requirements of all global and locally recognised standards, including ISO/IEC, TIA/EIA and AS/NZS.

The HypaConnect HY series is supported by ongoing product development, fast delivery and customer support. All of this is provided with an optional 25-year certified site warranty.

Warren & Brown Technologies
www.wbntnetworks.com.au



Wireless traffic and lighting monitor

The Aldridge Traffic Systems (ATS) Traffic SmartCity Technology (TST) is a holistic, wireless solution to monitor lighting and associated assets. Driven by real-time feedback, the TST platform integrates with ATS's VLed and PLed range of lighting infrastructure.

All data is captured and viewed through the TST - CAMS Portal, allowing users to monitor and control energy usage through

a network of TST intelligent remote sensing, and gather information on a wide range of inputs: the environment, waste functions, pole tilt or damage, plus the management of asset maintenance.

The VLed and PLed lighting systems are designed to be energy efficient, reliable and easily maintained.

Traffic Technologies Ltd
www.traffictd.com.au



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AUSTRALIA'S BEST SOLAR INSTALLATIONS

The Clean Energy Council announced winners of the 2017 Solar Design and Installation Awards at the All-Energy Australia exhibition and conference in Melbourne.

The Clean Energy Council's executive general manager of installation integrity, Sandy Atkins, said the winners demonstrated the excellence that the council has come to expect from the Australian solar industry.

"This year's winners range from Australia's largest solar car park shading system to a small installation at a suburban public park, but all involved novel solutions to overcome a unique set of challenges," Atkins said.

"The standard of entries in this year's awards was particularly high, making the job of selecting the winners extremely tough for the judging panel of independent solar industry experts. I thank all those who took the time to submit an entry to the 2017 Solar Design and Installation Awards."



Winner: Under 30 kW — grid connect

John David O'Brien and Jason Hua from Suntrix designed and installed a 15 kW system at the Booran Road Reserve public park in Melbourne. This installation powers the amenities at a former water reservoir that has been turned into a public park. The system is mounted on the wall of the original reservoir, making the best use of the available space while preserving the site's historical legacy.



Winner: Under 30 kW — grid connect with battery backup category

Stuart Bruce and Dean Edmonds from Solaray Energy installed a 30 kW solar panel system at the heritage-listed Stucco Housing Co-Operative for low-income students in Sydney. The installation included 36 batteries to provide renewable energy to the 40 residents of the co-op. It is expected to reduce the energy costs of more than 1000 low-income students over its lifetime.



Winner: 30–240 kW category

Marcus Lim, working with Lean Energy, installed a 162 kW system at the University of Melbourne's Parkville campus. The system will be used to collect data on the best designs for commercial solar systems. Dubbed the Rooftop Solar Lab, the installation will compare the performance of various solar design alternatives to find the best option for any given application.



Winner: Over 240 kW category

Matthew Linney and Peter Cook, working with Autonomous Energy, installed a 1.1 MW solar car park shading system at the University of Southern Queensland. The installation is said to be the largest solar car park shading system in Australia and will generate approximately \$1 million in annual electricity savings and large-scale generation certificate revenue for the university.



Solar tester

The HT Solar Tester is designed to measure the efficiency of single-phase photovoltaic systems and verify the I-V curve of a module or a string. It is available for rent from TechRentals.

For measuring I-V curve, the Solar Tester manages an internal database of modules (which can be updated at any time by the user) to compare the measured data with the rated values, thus allowing the immediate evaluation whether the string or the module fulfils the efficiency parameters declared by the manufacturer.

Measurement of short-circuit current Voc/Isc and open-circuit voltage can be performed with ease using the HT Solar Tester. Data from the instrument can be downloaded onto a smartphone or tablet via Wi-Fi for easy viewing of results.

Features include HTCloud database; troubleshooting assistant; LCD 128 x 128 px display with backlight; and power measurement of modules and strings.

TechRentals

www.techrentals.com.au

Enclosures and junction boxes

The Clipsafe enclosure series from Phoenix Contact has been extended to include 35 robust Ex-certified polyester enclosures for use in process technology environments.

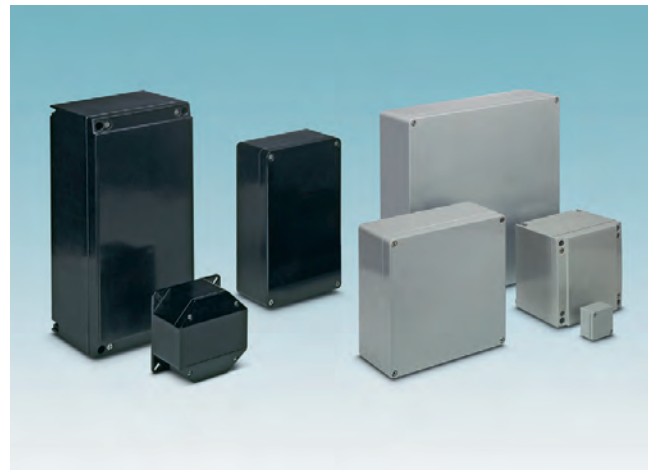
The enclosures are available in four designs and can be individually assembled with the comprehensive range of Ex-approved terminal blocks from Phoenix Contact. Enclosures with a double wiring level save space and IP66 degree of protection means that they are safe to use outdoors.

The range of polyester enclosures is rounded off with 46 additional standard polyester enclosures for industrial environments and non-hazardous areas. These can be individually assembled with all products from the Phoenix Contact product range.

Clip Project software enables users to configure terminal strips quickly, conveniently and without any errors. The software creates complete project documentation and is able to communicate with all popular CAE programs.

Phoenix Contact Pty Ltd

www.phoenixcontact.com.au



Micro trenching tool

Terratrencher is a micro trenching tool that comes in 2 sizes — either 500 or 800 mm. The Terratrencher cuts a clean trench 35 mm wide, which is easy and quick to repair. The trencher can be used either freehand for tight-to-get-at spots or in a handy trolley for longer runs with less fatigue.

The TT500 is suitable for nbn lead-in, 12 V lighting or irrigation work, while the TT800 with the extra depth is suitable for times when reaching 600 mm is required.

The Terratrencher is small enough to fit in the boot or back of a ute, yet it is tough. The Terratrencher has three different types of chain available for different conditions.

Terratrencher Australia

www.terratrencher.com.au





Dual-sensor security system

The FLIR PT-Series HD is an advanced dual-sensor security system, combining a cooled or uncooled 640 x 480 resolution thermal sensor, a 1080p high-definition visible-light imaging sensor and a high-speed, precision pan/tilt system.

The series integrates easily with FLIR United VMS 8.0, as well as other major third-party video management systems, making it a versatile solution for critical infrastructure protection in total darkness, bright sun and adverse conditions.

The series features high contrast thermal imaging, along with 0.01 lx low light colour technology. The cooled camera features a 14X continuous optical zoom lens, while the uncooled thermal model offers five fixed lenses and a 4X continuous optical zoom lens. The weather-resistant housing includes de-icing and de-fogging capabilities, plus a changeable thermal payload cassette that significantly reduces maintenance time. FLIR also offers a 10-year warranty on the thermal sensor.

When controlled using FLIR United VMS, the PT-Series HD offers enhanced capabilities, including picture-in-picture (PiP), automated PTZ tracking and fixed camera-target hand off. The motorised pan/tilt unit provides smooth, programmable operation, with radar and alarm slew-to-cue.

FLIR Systems Australia Pty Ltd
www.flir.com.au

Fusion splicer

The lightweight and compact Fujikura-12S fusion splicer has a long-life battery, providing technicians with 100 splice and heat cycles and allowing portability. Delivering an average singlemode splice loss of 0.018 dB ensures optimal performance in a cost-effective cladding alignment fusion splicer.

Features include compact and lightweight; long-life electrodes providing 3000 splices; long-life battery providing 100 splice and heat cycles; high contrast 11 cm display; compatible with FuseConnect splice on connectors.

AFL Telecommunications Pty Ltd
www.AFLGlobal.com



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Tel 08 9361 4200
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web www.protag.com.au



LOST DATA LEADS TO PAYMENT DELAYS FOR INSTALLERS

Poor test data sharing processes are resulting in lost test results, delayed job completions and cash flow problems, according to manufacturer of portable network and cable certification and testing equipment IDEAL Networks.

The company conducted detailed interviews with cable installers over the past 18 months to identify common frustrations and challenges and uncovered that many businesses are lacking efficient processes when it comes to reporting on certification jobs, and this is costing them time and money, IDEAL Networks Global Marketing Manager Tim Widdershoven said.

In many cases, installers at the job site conduct the necessary tests for certification, but then must send the certifier unit back to the office for the data to be transferred, according to IDEAL Networks.

Sometimes this is because an installer does not have access to an internet connection or personal computer on-site, but it can also be because a small number of certifiers are shared between several installers and must always be returned to a central office location after use.

Regardless, the customer can only be given a warranty once the certifier has been received, the data has been transferred and the required reporting completed. Data cable installers going from job to job on the road pose similar issues. Sometimes an installer will have to wait for days before they reach a hotel where the internet connection is sufficient for uploading the test data they have collected with the certifier. Again, it is only after this data has been received at the office that the necessary reporting can be done and the job completed and billed.

“Worryingly, the time to complete this process — from testing with a certifier

to invoicing the customer — can be up to two weeks,” said Widdershoven.

“These difficulties and delays transferring test data to the office postpone project completion and, in turn payment. This invariably hurts cash flow.”

In addition, both data-sharing scenarios risk the loss of test data. If test data is lost the site will need to be visited again for retesting. This reduces margins for the job and delays invoicing.

Likewise, neither process enables technical managers to check the job has been done correctly until after the technician has left the site, which may mean an installer must revisit the site. These sorts of call backs are seldom paid and therefore impact the profitability of an operation.

To help eliminate the issue of delayed and lost test results, IDEAL

Networks’ free mobile app IDEAL AnyWARE allows users to transfer test data from the job site to the office in real time. Data from tests conducted on IDEAL Networks’ SignalTEK CT or SignalTEK NT transmission testers, or with the LanTEK III cable certifier, can be transferred to a user’s mobile device then shared with off-site colleagues straight away. This improves collaboration and troubleshooting, while enabling faster customer sign-off for improved cash flow. It also ensures that test results are not lost so no time or money is wasted on re-testing completed jobs.

IDEAL INDUSTRIES
www.idealnetworks.net

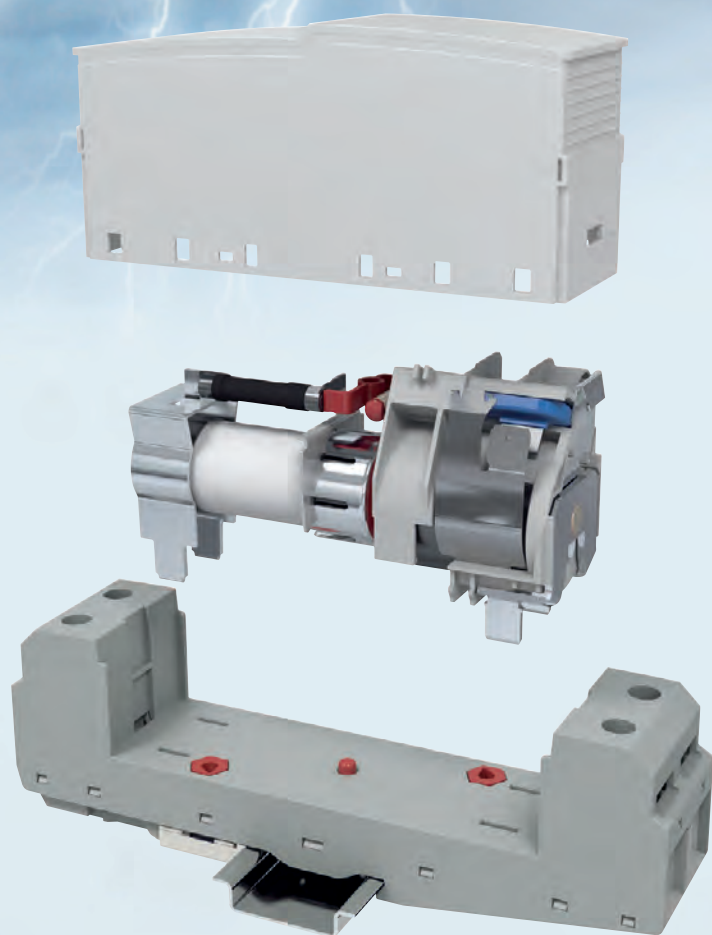


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Type 1 lightning arrester

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Type 2 surge protective device

The narrowest pluggable module on the market with overall width of just 12mm per pole. With high short-circuit withstand capability up to 50 kA



Type 3 device protection

Space-saving surge protection suitable for AC/DC applications with integrated surge-proof backup fuse

For additional information call **1300 786 411** or visit www.phoenixcontact.com.au



Electronic Breaker Unit for AC 230 V Power safety for UPS operation

The mechatronic circuit breaker type EBU provides selective overcurrent protection in AC 230 V UPS systems. The unit consists of an MCB approved for short circuit interruptions up to 10 kA.

The second element is an add-on electronic circuitry for measuring and evaluation tasks. The product is available with the typical MCB ratings 4 A, 6 A, 10 A and 16 A with B and C characteristics and is directly operated at the output of the corresponding UPS.

Your benefits:

- Enhanced system availability through effective protection
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Visit our home page for more information: www.e-t-a.com.au



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Email: info@e-t-a.com.au · www.e-t-a.com.au

UV-resistant control cable

LAPP has released two variations to the ÖLFLEX CLASSIC 110 range: the 110 Black and 110 Black LT. These two variations have new features including improved UV performance, making this cable suitable for installation outdoors and in applications where users might prefer black cable.

The ÖLFLEX 110 Black LT is specially designed for flexing applications at extra low temperatures (down to -30° with occasional flexing). Traditional ÖLFLEX 110 is suitable for occasional flexing down to -15°, so the LT variation adds an extra 15°.

LAPP EXPRESS Australia

lappexpress.com.au

Optical loss test set



The VIAVI Solutions SmartClass Fiber MPOLx is an optical loss test set that can perform all the test requirements for Tier 1 (Basic) certification using MPO fibre connectivity.

The MPOLx provides a source and power meter that integrates essential MPO test capabilities together to ensure a fast and reliable workflow when testing and certifying network links with native MPO connectivity.

The MPOLx gives technicians the ability to achieve greater productivity for MPO testing and certification. Identical local and remote units are provided to enable full visibility and control by performing tests from both the light source and power meter. All devices feature a 3.5" colour touch screen and integrated inspection for both bulkhead and trunk connectors. The MPOLx allows a single technician to inspect MPO end faces and perform tests from either end of the connection, reducing walking back and forth between the two units.

The MPOLx ensures fast workflows by delivering comprehensive test results in less than 6 s for all 12 fibres of the MPO connector, providing colour-coded pass/fail test results, test limit, fibre length, test wavelengths, loss values, margins and polarity results for each MPO fibre.

Benefits include fast and reliable test and certification workflow; full visibility and control at both the source and power meter; complete MPO end face inspection and analysis at both ends; and integration with FiberChekPRO.

TMG

www.tmgtestequipment.com.au

Emergency and exit lighting maintenance log book

The ABB rebranded emergency and exit lighting maintenance log book for all Australian standards testing and maintenance requirements is now available. The new look and feel is more in line with the new ABB profile. ABB is able to sell the new version at a more competitive price.

The company recently depleted all the old stock of "LOGBOOK" and there has been a new part number set up "LOGBOOK2", which is in stock.

All orders for LOGBOOK will be moved to LOGBOOK2.

ABB Australia Pty Ltd

www.abbaustralia.com.au



REGULATION SHOULD ENCOURAGE INNOVATION

There is an urgent need for electricity networks to innovate in order to meet future customer requirements, confirms the Innovation in Electricity Networks report by consulting firm Deloitte.

The report, developed with support from Energy Networks Australia, is based on a survey of 114 people from 17 electricity network businesses on the state of innovation within Australian electricity networks.

“Most survey respondents recognise the need to take advantage of changes in technology; however, over half of them acknowledged they lack the capability to act upon their innovation ambitions,” said power sector specialist and Deloitte National Leader, Energy and Resources Michael Rath.

The report has identified a need for greater investment in transformational innovation, including distributed energy resources, battery storage, multiflow networks, demand and energy management, and advanced data analytics and automation.

Energy Networks Australia Interim Chief Executive Officer Andrew Dillon said, “The best outcomes for Australian electricity consumers will come from a regulatory framework which fosters innovation — not only in new energy markets, but within network services.

“Nobody knows exactly what the grid of the future will look like. We need our regulatory framework to encourage trials and pilots of various technologies to determine what we can deliver for the consumers of tomorrow,” said Dillon.

The study finds that today network businesses focus on the improvement of core business processes and assets, but the most important innovation is in channels to market, brand and consumer engagement.

The survey results suggest few businesses are putting in effort to innovate in these areas, accounting for some of the lowest levels of innovation taking place — only 8% of the innovation budget.

“Businesses need to have a bold, clear innovation strategy with tangible targets and expected outcomes, freeing people up to innovate in a disciplined way that embraces risk, and accepting potential failure in the pursuit of positive and sustainable results,” said Rath.

Other key findings from the study include:

- Electricity networks have big ambitions for innovation in their businesses. They see the need to direct a greater proportion

of investment to transformational innovation in new products and markets. Today, 17% of networks’ innovation investment is directed towards game-changing, transformational innovations. In five years, networks want 24% of innovation investments to have a transformational ambition.

- Network businesses need to create the right environment for innovation to deliver on their ambitions. 61% say they do not effectively measure innovation progress or outcomes to identify when they’ve done it successfully or poorly. Only 11% of businesses think they are effectively recognising and rewarding staff contribution to innovation.
- Networks’ ability to innovate is constrained by their appetite for risk and the regulatory environment in which they operate. Australia’s regulatory framework defines areas in which regulated network activity can occur, including the types of activities that can be undertaken. In addition to regulatory requirements, businesses acknowledge a lack of appetite for risky investments. Many of the more innovative network businesses are more motivated to pursue higher risk opportunities where and when needed.
- Network businesses are highly specialised and focus their innovation investment on core assets and business processes. 63% of networks’ innovation investment is in core business. The challenge is to expand innovation effort into areas they find less comfortable in order to overcome the difficult structural changes needed and access opportunities to create value for consumers.
- Some network businesses have well-defined and -understood innovation strategies, but many also identify issues within their strategy or their ability to execute. Strategies may articulate the networks’ ambition, but many are not clearly laying out the actions, roles and responsibilities needed to deliver. Our analysis found no correlation between businesses’ innovation ambitions and their ability to execute. The barriers to innovate may be significant enough to prevent the delivery of new ideas and value creation.

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Micro-ohmmeter

The Megger MOM2 micro-ohmmeter measures resistance with a resolution as low as 1 $\mu\Omega$. The product weighs 1 kg and is designed to run all day without needing a recharge. It is available to rent from TechRentals.

The MOM2 uses the DualGround method, meaning that the test object will be grounded on both sides throughout the test, without affecting the results. This provides a safe, fast and easy workflow and shifts focus to the test rather than the equipment.

The product stores 190 test values, with easy transfer to PC via Bluetooth. It has an auto range of 1 $\mu\Omega$ to 1000 m Ω . The display offers both an analog arc and a dual digital readout. Kelvin probes are also included in the rent for a 4-wire Kelvin test.

TechRentals
www.techrentals.com.au

NMI pattern approved energy meter

The Carlo Gavazzi EM24DIN energy meter from NHP is suitable for embedded network applications involving sub-billing, such as multitenant office buildings and universities.

The meter has been developed for compliance with the National Measurement Institute (NMI) M6-1 standard where any meter to be used for 'trade' or billing applications needs to be NMI pattern approved. It enables building owners and facility managers to gain greater insights into energy usage. This, in turn, results in increased accuracy when it comes to billing and reporting.

Specifically designed for use in the local Australian market, the three-phase energy meter can be configured for single- and three-phase applications and features onboard MODBUS communications where energy data can be remotely available and accessible to energy management systems.

For added application flexibility, the EM24DIN energy meter can be used either as a DIN rail mounting or a panel mounting energy meter with purpose fit accessory.

The meter is available to the Australian market only and the following part number can be used for ordering: EM24DINAV53DISX26.

NHP Electrical Engineering Products Pty Ltd
www.nhp.com.au



Multisystem room control

The ControlBridge Wired Touch Panels allow users to connect and control everything in conference rooms, classrooms and control rooms — room controls (such as lights and window shades), KVM systems and AV systems including projectors, sound, screens and more.

The panels has 7" and 12" screen sizes — both providing multimedia integration, lighting automation,

security monitoring, entertainment integration, and meeting and presentation control. The active matrix touch-screen display supports 1280 x 800 pixels resolution for 7" and 12" screen sizes. Both models produce stunning true-colour images. A wired Ethernet connection provides easy network integration.

Fully compatible with ControlBridge controllers, the touch panels provide a one-touch solution for meeting rooms, conference rooms, boardrooms and high-tech homes. They are equipped with Power over Ethernet (PoE).

Black Box Network Services Australia
www.blackbox.com/en-au

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1 x SLH-30	Stainless Steel Lockout Hasp
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This kit enables electrical technicians and others to safely lock out energy sources before working on them.

Other great value Lockout Kits are also available – including custom made Lockout Kits. The CLK – kits are made in Australia by Cirlock, Australia's original lockout manufacturer. Items can also be purchased separately.

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Automated fibre test platform

The ODM VIS 300C automated fibre test platform provides hand-held, all-in-one fibre testing for field and lab applications. The system brings together effective methods for verifying fibre connections to yield simple and repeatable test results.

The platform helps streamline fibre testing processes through an easy results-saving and reporting system. The 5" touch-based user interface allows users to quickly switch between inspecting fibre end faces, testing with an optical power meter and troubleshooting via an onboard VFL.

The product can perform essential tests quickly. A combination of inspection, testing and troubleshooting hardware promotes efficiency.

It is possible to obtain pass/fail results at the touch of a button. The user can easily configure IEC analysis profiles for inspection and test parameters for OPM testing and see results in easy-to-understand green and red.

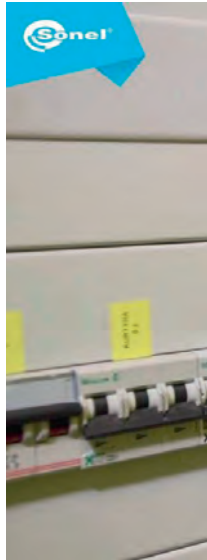
Users can create close-out reports and share via Wi-Fi. All reports clearly display whether fibre pass or fail according to specific criteria.

The product is portable, with all necessary hardware safely attached to the VIS 300C and protected via a durable carry case. A neck strap on the carry case ensures the platform will stay where it is needed.

Features include automated image centring and analysis to meet IEC 61300-3-35 standards; onboard OPM with many standard calibrated wavelengths; 635 nm red laser VFL for troubleshooting and continuity testing; enough storage space for thousands of project folders, images and power meter readings; instant report creation with user-defined parameters; and the ability to share test results via Wi-Fi (email or cloud storage) or transfer results via USB cable to PC.

TelecomTest Solutions

www.telecomtest.com.au



Transformerless inverter

The ABB TRIO-50.0 transformerless inverter combines the performance and price advantage of a central inverter, with the flexibility and ease of installation of a string inverter.

Offering increased power density to leverage the benefits of a decentralised system layout in industrial plants, the TRIO-50.0 features a modular design with detachable AC and DC compartments and flexible configuration with a combination of building block options. The TRIO-50.0 features forced air cooling with a field-removable fan.

As an additional benefit, the 50 kW inverter can be mounted vertically as well as horizontally, which allows the unit to be placed under the PV panels, simplifying field retrofitting installation. The TRIO-50.0 is supported by a limited stock of parts common to all product versions allowing for easy and cost-effective maintenance and serviceability.

ABB Australia Pty Ltd

www.abbaustralia.com.au

Barrier cable gland

The Hawke International PSG553/RAC barrier cable gland is a no-mess alternative to Ex de cable gland installations. It is claimed to improve productivity and reduce installation time and ongoing maintenance.

The product eliminates the need for resins or putty; reduces mess and MSDS; eliminates curing time; and provides instant energisation after termination. It is suitable for outdoor or indoor use.

The device provides a barrier seal to the individual insulated cores within the cable and prevents entry of the products of an explosion into the cable. The required number of holes for the cores are punched in the seal by means of a special tool to suit the core size.

The product provides armour clamping using one clamping arrangement for all armour/braid types. A deluge protection option is also available.

It also provides cable retention and a low-smoke and -fume, zero-halogen seal on the cable's outer sheath.

JT Day Pty Ltd

www.jtday.com.au



Cable locator and identifier

With a 3D receiver display, the Sonel LKZ-720 cable locator and identifier instrument is suited to finding, tracing, identifying and phasing of all types of building cables, conduits and pipes.

The LKZ-720 can be used on de-energised or live cables up to 500 V and performs the following functions: non-contact detection of live cables; volt-

age measurement to 500 V; detection and tracing of cables in ceilings, walls, floors or underground; detection of cable breaks and short circuits; tracing of shielded cables and cables in metal conduit; identification of circuit breakers; phase identification; and tracing of metal pipes.

The 3D display on the receiver indicates the direction of current flow to assist with accurate location.

The LKZ-720 is supplied ready to use with transmitter and receiver, test leads, probes and crocodile clips in a carry case. Options include an induction clamp where it is not possible to make a connection to the cable or pipe and a non-contact probe for more accurate identification in confined spaces.

The product is covered by a 2-year Australian warranty.

Pacific Test Equipment Pty Ltd

www.pacifictest.com.au



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Fibre shelf

The SYSTIMAX iPatch HD fibre shelf is built to support high-density data centre applications based on LC and MPO connectivity.

Designed at CommScope Labs, the solution combines intelligence and high density with manageability and the ease of making moves, additions and changes. At the heart of the solution are CommScope's HD-1U and HD-2U fibre shelves. Each of the shelves accepts InstaPatch 360 modules or MPO pass-through panels.

The use of the modules and panels allows incremental spend as growth occurs, and simplifies installation and maintenance. The compact shelves allow data centres to use a single cabinet to house both SAN directors and fibre cabling.

Real-time management of the physical layer ensures that stranded switch ports are identified and repurposed, rather than remaining idle while continuing to consume power. It also optimises server deployment and commissioning.

CommScope Solutions Australia Pty Ltd

www.commscope.com

Industrial displays

APLEX Technology's ARCDIS series industrial displays feature 7" to 21.5" TFT LCD panels with LED backlighting. The series provides an IP65 front panel and features a resistive touch or an optional projected capacitive touch screen with a 170° horizontal and a 160° vertical viewing angle.

The series now includes input connections for VGA, DVI, HDMI and DisplayPort video. Either USB or optional serial connectors are provided for touch-screen control and a 3-pin terminal block is provided for DC input power. The displays require a 9–36 VDC input supply. An optional 240 VAC power pack is also available.

The series features a silver, aluminium diecast housing with VESA 75 x 75 or 100 x 100 mounting holes. With a depth of 65 mm, the displays require minimal space and can be unobtrusively wall- or arm-mounted. Panel mounting clips are also provided. Rear-panel OSD controls are provided for easy access to all display settings.

Interworld Electronics and Computer Industries

www.ieci.com.au



Contractor lockout kits

The Cirlock CLK-1 contractor lockout kits have been put together especially for commercial tradespeople and contractors working on various sites. The different kit sizes available will enable the worker to lockout/tagout most common energy sources, including electrical, gases and high pressure.

The CLK-1 contractors lockout kit is packed with all the lockout equipment needed — universal lockout for miniature and moulded case circuit breakers, a universal lockout for fuse holders, multifunction cable lockout device, lockout hasp, safety lockout padlock as well as danger and warning tags. It even includes a 240 V plug and hose lockout device and The Little Book about Lockout/Tagout. It is all contained in a convenient carry bag with zipper and belt hasp for easy storage and transport.

Other lockout kits are also available, including custom-made lockout kits.

There are more than eight size options to choose from; contractor lockout kits for electrical; contactor lockout kits for mechanical; combination valve/electrical lockout kits; carry bags, belt bags, waist bags and toolbox accessories available.

Cirlock

www.cirlock.com.au

Household storage solution

The Hanwha Q CELLS Q.HOME household energy storage solution includes a photovoltaic (PV) module, hybrid inverter and battery with a built-in home energy management system (HEMS), designed with the primary purpose of reducing high energy bills.

The system can be paired with any module available from the company's product range, including the residential solar module Q.PEAK DUO-G5. The Q.PEAK DUO-G5 generates up to 330 Wp from a standard-sized solar module. It is a suitable choice for users with limited roof space because it maximises energy yields even on small surface areas.

The solution has 5 kW power output and can store up to 14.4 kWh of electricity. Q.HOME's HEMS allows users to monitor and predict household usage patterns and solar energy production, with an interactive mobile app providing real-time information on solar power generation, load consumption and grid electricity status.

Hanwha Q Cells Australia

www.hanwha-qcells.com



Anybus gateways

HMS Industrial Networks' two new gateways connect factory automation equipment to building automation systems — Anybus Modbus to KNX gateway and Anybus Modbus to BACnet gateway. The new gateways enable industrial devices using Modbus to communicate on building systems using KNX or BACnet.

As BACnet and KNX are increasingly being used in buildings and infrastructure installations, there is an increasing demand for integrating industrial devices that communicate on Modbus into these networks. The Modbus-to-KNX and Modbus-to-BACnet gateways act as translators, allowing Modbus RTU, ASCII and TCP devices to show up as individual KNX or BACnet compliant devices in a building automation network. This enables central

KNX/BACnet control and supervision of Modbus devices such as drives, HVAC controllers and measuring equipment in building installations.

The gateways offer a straightforward integration process. Modbus RTU slaves are connected to the serial port of the gateway, while Modbus TCP devices are connected to the Ethernet port. On the KNX or BACnet side, the gateways appear as simulated devices in the KNX or BACnet system. Configuration is made in the Windows-based Anybus Configuration Manager (MAPS) tool.

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Indoor cameras

Mobotix has added indoor models c26, i26, p26 and v26 to its Mx6 6 MP camera line. As with the Mx6 outdoor cameras, the indoor models are also available with a more powerful CPU as well as an H.264 encoder.

The c26 is a small and lightweight camera with a diameter of only 12 cm and a weight of approximately 200 g.

With a tilt angle of 15°, the i26 provides a complete overview of the room and can therefore replace up to four conventional cameras. It is particularly suitable for corresponding wall mounting, as it is just as compact and discreet.

The p26 provides flexibility during installation, due to its manual swivel and tilt functions, and can completely secure an entire room when it is installed in a corner area due to its 90° lens.

The v26 is said to be the first vandalism indoor camera to also offer all Mobotix functions. Alongside the standard lenses, an on-wall audio set and suitable vandalism sets are available for optimum protection.

All of the indoor models are fitted with 6 MP moonlight sensors and deliver sharp, richly detailed videos, even under poor light conditions (>1 lx). The higher performing processor delivers up to twice as many images per second as before — at the same resolution.

The video data is simultaneously offered in three formats (MxPEG, MJPEG and H.264), as well as in a range of different resolutions. RTSP/multicast makes the Mx6 cameras more flexible.

All of the models come with intelligent motion detection directly on the camera and therefore offer more capacity for additional software applications.

MOBOTIX

www.mobotix.com



LED downlights

Gerard Lighting's Pierlite Litelux LED Downlights range allows customers to set the scene with dimmable colour and temperature changes, making it suitable for all living spaces.

Deeper housings and customised board designs ensure better heat dissipation at higher temperatures and allow the integrated dimmable drivers to achieve maximum performance and life. Typical roof spaces can be 40° or more. IC-4 LED downlights are tested to make sure they are safe to operate when covered in ceiling insulation.

The IC-4 classification is based on vigorous tests at extreme temperatures and will ensure the LED downlights last as designed. The range consists of three downlight styles available in flush or recessed diffused front lenses with 35,000 h of average design life and three years' warranty.

The integrated dimmable driver uses new technology to provide a smooth colour temperature change from cool (6000 K) to warm white (2900 K), as the smooth dimming action reduces lumen output. The light is easy to install due to the ergonomically designed solid wide blade retaining springs.

Gerard Lighting Group

www.gerardlighting.com.au



Ruggedised cabinets

Eaton has expanded its industrial portfolio to include ruggedised cabinets to support the growing trend towards digitalisation of process and communications, and to provide a safe, secure and available environment for IoT technology, automation and big data.

The cabinets are designed for critical applications in telecommunications, transport, utilities, public services and agriculture industries. They cater for most applications through customisable designs and offer an ingress protection (IP) of 42 to 55, ensuring vital electronics remain protected at all times.

The ruggedised portfolio is also suitable for other key sectors such as oil and gas processing, waste treatment, CCTV and security systems, automated car parks and industries requiring uninterrupted power supplies.

Other features include: UPS AC, UPS DC and UPS AC/DC; 1 to 40 kW singular and modular units; 18 to 34 RU enclosure sizes; air-to-air heat exchange; anti-rust paint; multipoint locking; marine-grade aluminium material; and remote monitoring and control.

Eaton Industries Pty Ltd

www.eatonelectric.com.au





Hydraulic magnetic battery storage range

CBI's MCB hydraulic magnetic battery storage range is designed to keep batteries in an installation safe, as well as enable safe disconnection. The unit contains both poles in the same box and is available up to a rated current of 250 A.

Designed for the smallest domestic system to an off-grid application with current ratings from 80 to 250 A, CBI's IP67 enclosure and MCB busbar set (with optional AUX capacity) offers safe solar storage protection and isolation.

Backed with CBI's hydraulic magnetic technology, the MCB range has the capacity to carry 100% of rated current, with no effect on the breaker's performance in the most extreme or ambient temperatures. It operates from -40 to 85°C.

CBI Electric Australia Pty Ltd
www.cbi-electric.com.au

LED floodlight

The Chalmit Lighting Arran LED floodlight is sleek and efficient, offering instant-on crisp, white light output. The compact floodlight delivers a uniform photometric distribution and powerful performance for 130,000 maintenance-free hours at 25°C.

Classified to Zone 2, Zone 22 to EN 60079-10-1 and EN 60079-10-2 with installation to EN 60079-14, it has been specially designed to be vibration resistant and can be used in locations where flammable vapours, gases or combustible dusts exist.

The product has a temperature range of -50 to +55°C and provides high-output light with models ranging from 5000 to 15,000 lm (delivered) output at extreme temperatures. The versatility of the luminaire enables a variety of mounting options, from pendant to stanchion, covering a wide range of industrial installations.

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FIVE REASONS CONTRACTORS NEED TO AUTOMATE SERVICE OPERATIONS

Rob Stummer*



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Let's face it, if you are relying on whiteboards, spreadsheets and handwritten notes to drive your service operations, then you are going to have an uphill battle on your hands.

Service-based businesses like those in the electrical industry succeed and fail based on how they manage complexity in the face of increased competition. Best-in-class organisations not only respond quickly to market demands, they also anticipate needs and proactively add value to their clients. If your business is to compete and grow, then your field service software must help automate and streamline your service processes.

When, where and how a service is delivered, by whom and under what conditions all impact your customer's experience and satisfaction with your business. Mobility and productivity enablement tools, therefore, are important elements in maximising service delivery effectiveness.

Automation of your field service operation can also remove constraints that unnecessarily reduce efficiency. For example, field service software can automate elements of the dispatcher's role by using information on jobs, projects and technicians to create the day's schedule. Tracking all non-part transactions including labour, travel and expense allocation, as well as facilitating request generation and service order management, are all functional possibilities with the right tools in place.

The old methods of service simply don't cut it any more. Research and advisory firm Gartner details four objectives that field management applications should meet to qualify for inclusion in its Magic Quadrant for Field Service Management (FSM):

- Receipt of requests for a field service technician over the internet, over the telephone or from an intelligent device.
- Scheduling and assigning a service technician (long, mid-range, weekly and intraday optimisation of the technician, factoring in assets and improved service level agreement [SLA] compliance).
- Complete mobilisation of that technician to perform end-to-end service tasks, including the ability to look up inventory status in real time or cached from a mobile device.
- Field service functionality that supports a continuum of field service models, from

reactive to preventive to predictive to reliability-centred maintenance.

With the right enterprise software that is integrated with, or includes, FSM software, companies will place themselves in a strong position to enjoy future success. They can improve their customer satisfaction, efficiently schedule service and have the information they need to manage service costs.

IFS has identified five key benefits that electrical organisations can obtain from selecting the right enterprise service software to drive their business.

1. Optimise resource scheduling

Software with sophisticated scheduling capabilities can use known information about the technician's skills, knowledge, qualifications, availability, location and a number of other parameters to coordinate scheduling tasks which meet your predefined business rules. Scheduling in this manner can help reduce the number of dispatchers required, improve performance against SLAs and reduce travel distance and time — all of which help to reduce cost.

Particularly in a fast-paced environment, a resource which adapts in real time and uses GPS tracking to ensure efficiency in everything from drive time in bad weather, to fuel consumption in instances of fuel cost rises, is a real game changer.

In the absence of advanced scheduling tools, should your company have many technicians in the field, then you are likely to need multiple dispatchers to coordinate, on a case-by-case basis, which technician has the right part and the right capability to work on a product. However, with the right service management application, scheduling and mobility can together allow a dispatcher to handle otherwise unfeasible scheduling tasks as the software can drive recommendations to them.

2. Attract and retain talent

Changing societal behaviour and consumer expectations on many levels weights a growing importance on businesses that embrace mobility. Therefore, beyond the direct benefits to field service management



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operations, embracing mobility is also important in positioning your business as an employer of choice.

Whether employees are using laptops, smartphones or tablets, their field service software should be an easy-to-use, functional application that supports productivity in as many business scenarios as possible. Therefore, mobile field service solutions should not be limited to a browser-based app. Consider the nature of your organisation's operations in the field. Could your technicians benefit from scanning barcodes for parts details or accessing SLAs for response time commitments?

3. Facilitate better decision-making

Business today is far from static. Internal and external stakeholders need access to accurate information, in real time, to facilitate business decision-making and for their system automation to run effectively. Being unable to make efficient and insightful decisions due to system limitations is like riding a penny farthing in the Tour de France. It is a waste of resource input, it is clumsy and it attracts risk.

The benefits of a system which empowers real-time data analysis and communication should be considered the baseline for field service software. As an alternative, third-party driven business intelligence projects can be disruptive, complex and expensive.

Automatically generated management dashboards, alerts, notifications and reports provide your business with the operational insight to act on emergencies immediately and forecast and capture revenue more accurately. Contextualised real-time insights



AUTOMATICALLY GENERATED MANAGEMENT DASHBOARDS, ALERTS, NOTIFICATIONS AND REPORTS PROVIDE YOUR BUSINESS WITH THE OPERATIONAL INSIGHT TO ACT ON EMERGENCIES IMMEDIATELY AND FORECAST AND CAPTURE REVENUE MORE ACCURATELY.

also facilitate effective strategic planning as important market trends can be detected sooner and more thoroughly, to help avoid missed opportunities.

4. Optimise contracts

Effective service management software at many levels plays an active role in improving performance against agreed contract requirements. Through an ability to load contracted requirements into your field service management software, it plays an active role in helping you meet and exceed these requirements.

With scheduling prioritisation, notifications and delivery of information, which is targeted on reaching the highest standards, the right software system will optimise your resources in a manner you are unlikely to be able to replicate manually. While meeting your contracted requirements is important from a compliance perspective, reaching and exceeding customer expectations should also be a priority in creating customer lifetime value.

5. Increase customer satisfaction

Whether dealing with other businesses or direct to customers, buyer behaviour has changed and as organisations, we must all recognise the importance of delivering a service worthy of loyalty and referrals. Aside from having a culture that promotes

a customer-first approach, without the right insight, driven by the right technology platforms, it becomes difficult to deliver an experience that meets growing consumer expectations.

Warren Buffett, often referred as the world's greatest investor or the Oracle of Omaha, believes strongly in the notion of going beyond customer satisfaction and focusing on customer delight. In competitive markets, this approach is what propels many great Australian service businesses to stay leaders in their industry. If your business does not have the right service management software for the future, then it is likely to fall short of reaching its potential in this area.

The benefits of choosing a field service management system are far reaching because the right software will be integrated across broad business functions and deliver a wide range of benefits. You must, therefore, ask yourself, "Does our business have the right tools to take us forward?"

**Rob Stummer is the Managing Director, Australia and New Zealand for global enterprise applications company IFS. He has held this position for the past nine years, continually achieving significant growth annually in both revenues and EBIT. Rob holds several degrees, including a Masters from Melbourne University.*

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f t in renault.com.au



Field service management solution



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ServiceM8's field service management app allows trades and services businesses to take control and work smarter with real-time communication between their office, field staff and customers.

The app is designed to be used by everyone in the business, from each individual field staff member, to back office staff, through all levels of management. It allows users to access all client and job details from the field, anywhere, anytime. Field staff can access a full history of work done for every client,

including notes, photos, emails and messages — anywhere. Users can access checklists and task lists to ensure jobs are done right the first time, every time.

The app allows users to take photos and record videos and they're saved instantly to the job. It also features powerful job search that brings up past jobs instantly. The users can search for anything from client name, job number or materials used. It also features integrated navigation, allowing users to get directions to the job site in two taps.

ServiceM8

www.servicem8.com



Automation solution

Mindfields' Automation as a Service (AaaS) automates a company's consulting and delivery processes.

The solution bundles RPA services such as research, education, consulting and execution. Currently, clients are paying separately for these services to various vendors who work in silos, which can increase costs and project timelines. AaaS will democratise RPA irrespective of industry vertical and a client's company size.

RPA takes business processes that are currently performed by humans and creates a software bot that then performs the same task around the clock.

Mindfields Global

www.mindfieldsglobal.com



Lightweight tablet

Panasonic's rugged handheld Toughpad FZ-F1 is a thin, lightweight tablet in the 4.7" category intended to support those who are exposed to tough and high-risk work environments.

Powered by Windows 10 IoT Mobile Enterprise, the device has 3-in-1 capabilities combining a mobile barcode reader, phone and tablet into one device with a long-lasting battery that provides up to 8 h of continuous use. The rear barcode reader allows users to scan items easily, while the multitouch display can be accessed even with gloves on, making the device suitable for transportation and logistics, manufacturing and retail industries. It is also suitable for a wide variety of applications, such as inventory management, shipping and receiving, delivery routing and parcel tracking, and retail store queue busting.

The FZ-F1 is expected to help slash field failure rates, raise productivity and reduce work-based injuries thanks to its innovative design. The tablet is certified on leading mobile carrier networks, providing 4G LTE/3G/GPRS/CDMA2000 mobile broadband for voice (or VoIP) and data, provides up to 630 h standby time and has military-certified toughness.

To ensure clear voice communications above industrial noise, the device is equipped with intelligent noise suppression capabilities and dual front speakers providing a maximum volume of 100 dB. Wi-Fi 802.11 a/b/g/n/ac, near field communications (NFC), standalone and assisted GPS (A-GPS) and Bluetooth, v4.1 (Class 1) are standard.



Panasonic Australia Pty Limited

www.panasonic.com.au



Diesel-powered van

Renault's Kangoo Maxi diesel auto features 4.0 m³ load space and comes with standard, wide-opening rear barn doors and a sliding side door on each side. This makes access to the load area easy and convenient, and removes the need to haul gear over the side of a tub or out of an expensive metal toolbox.

The two-pedal turbo-diesel Kangoo uses a similar 6-speed automatic transmission to that fitted to the 1.2 L turbo petrol Kangoo launched in Australia in February this year. The diesel engine produces 81 kW/250 Nm of torque while sipping just 5.4 L/100 km and also offers an ECO Mode, cutting fuel consumption by up to an additional 10%. Service intervals are annual or every 15,000 km.

As with the entire Renault Kangoo range, the diesel EDC variant will be offered with a 3-year/200,000 km factory warranty and three years of 24/7 roadside assistance. It goes on sale nationally from 1 December.

Renault Australia
www.renault.com.au



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Software for tradies



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i4Tradies' next-generation tradies software connects business owners, on-the-road tradesmen and their customers with single cloud-integrated job management software.

The software offers an end-to-end solution to customers and businesses alike. From a business perspective, i4Tradies offers a holistic customer experience management solution, covering everything from receiving and responding to job requests, allocating jobs to employees based on skills level and job proximity, electronically invoicing customers, receiving payments and generating new leads through referrals.

Customers can download the app on their smartphones and find the most suitable local tradesperson based on his/her credentials.

i4Tradies

www.i4Tradies.com.au



Field service solution

simPRO's update to its mobile app Connect allows field technicians to send official quotes, capture customer signatures for quote acceptance and start a job all in one site visit.

The new features are expected reduce the man-hours between a site visit and getting paid. It will allow on-site technicians to email a quote to a client and start working on the job immediately after it is quoted and signed for by the new customer. All this is now achievable without ever having to contact the office or leave the site.

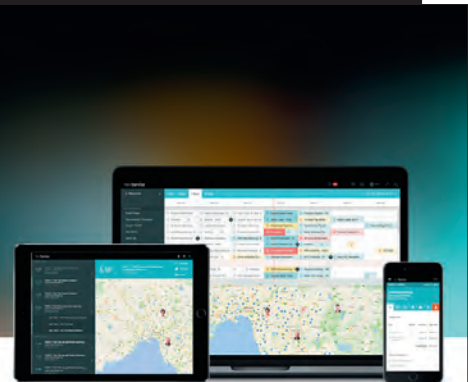
The two new features which make this happen are the ability to email a quote to a client and the ability to add a signature when converting a quote to a job. These improvements merged with the app's existing abilities to create a quote and collect customer signatures on-site mean that Connect can now take a technician from start to finish independent of office management. The feature is optional and needs to be manually set up in settings for it to function for all field technicians. This ability also requires a Wi-Fi connection or data on the mobile device.

simPRO Software

www.simPRO.com.au



Field service software



NextService, cloud-based field service software built for NetSuite, is designed to be easy to use and accessible anytime, anywhere. The software installs straight into a NetSuite account with no connector and no application programming interface (API). There is no need to import or export data.

It natively communicates with the user's entire account. There is no need to waste time mapping fields or creating connections to external systems, because NextService is already inside the NetSuite ERP. This means users can combine all their field service data into any other reports, saved searches and dashboards.

The solution can configure the entire field service business in 40 h, and it includes the Mobile App and user billing rules.

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CityPro™ and UrbanPro™ pair with Isuzu's N Series and feature revolutionary ergonomics. The designs feature three points of contact to enter the centre aisle. The overall lowered box design allows operators and tradespeople to access ladder racks whilst both feet remain firmly on the ground, and safely reach items stored in the top shelves.

XL Service Bodies is an **all-Australian business** with proud longevity and a track record of supporting the national economy by employing locals and sourcing all possible parts and materials locally. All our products are designed and manufactured right here in Australia.

Standard features:

- Seats driver and 2 passengers
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MANAGING THROUGH MEASUREMENT

Jonathan Nally

The old adage that you can't manage what you can't measure is nowhere more apt than in data centre energy consumption.

Energy management is one of the top priorities for data centre operators. Australia has roughly 50,000 data centres of all sizes, with around 100 of them considered to be large or enterprise-sized. Put together, they are responsible for around 4% of the nation's electricity usage — 7.3 TWh in 2014 figures. In 2006–07 it was 2 to 3 TWh, and about 1.5% of total consumption.

It's no wonder, then, that operators are keen to reduce their electricity consumption and concomitant power bills. One way to do that is to keep up with the latest storage, server and cooling technologies. Metronode's data centres, for example, consumed 40 GWh of energy in 2016, with an associated CO₂ emission generation of 37 kT. But those numbers would have been 56 GWh and 52 kT, had the company not employed BladeRoom technology and innovative designs.

According to the NABERS Energy standards, there are three relevant ratings for data centres: IT equipment, infrastructure and whole facility.

The IT equipment rating (according to NABERS' Reducing the Energy Consumption of Data Centres document) "is for organisations who own or manage their IT equipment (including servers, storage devices, network equipment), who have no control over the data centre support

services such as air conditioning, lighting and security, or only wish to measure their IT equipment. It benchmarks the greenhouse gas emissions associated with the energy consumed by the IT equipment and allows organisations to determine their equipment efficiency by comparing energy consumption with the capacity to compute and store data — the productive output."

The infrastructure rating "is for data centre owners and managers. It allows them to determine their facility's energy efficiency in supplying the infrastructure services to the IT equipment housed in the data centre. This rating is suitable for co-location centres where the operators do not have control of any tenant IT equipment but provide the cooling and power delivery systems."

And the whole facility rating "combines both the IT Equipment and Infrastructure tools and is designed for organisations that both manage and occupy their data centre or where internal metering arrangements do not permit a separate IT Equipment or Infrastructure rating".

Of course, the ability to achieve energy efficiency goals and comply with standards depends on reliable and accurate measurement of consumption. And that's where metering technology comes in.



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According to Ron Davis, managing director of energy management specialists SATEC (Australia), many operators assume the data received from their energy management meters is correct, whereas in his opinion a high percentage of readings may not have been correctly validated.

“Correct validation starts with ensuring the devices have been programmed properly — it’s garbage in, garbage out,” Davis said. “Beyond this, the validation process should ensure the readings are accurate with respect to power, vector relationships, phase angles and so on to ensure the meter and the building management system (BMS) and/or SCADA are both reading correctly with respect to one another. The biggest error made is that the majority of validation is completed only by checking AC current loads and not considering the errors where the AC power is being measured.”

Davis said the NABERS standards for data centres, as well as NMI-approved devices for sub-metering billing, have influenced metering and technology, with performance and KPI criteria enhanced. “The key benefits ensure the data made available is accurate and provides improved confidence in the information received,” he said.

“However, this is still heavily dependent on referring back to the programming and validation process,” he added. “These increased objectives add costs but also are designed for the integrity of the measurement data. ISO17025 certification under the NMI rules has added further performance metrics for meter manufacturers that are willing to make the investment.”

According to Davis, it is important that operators can have confidence not only in the data, but also that the data provides valuable information to confidently make informed decisions.

“Regardless of the KPI agenda, unless the data is accurate there can be no confidence with the information,” he said. “Furthermore, where data centres are involved with energy consumption for billing purposes, it is important that this ‘cash register’ is measuring correctly. This is where NMI-approved metering provides the confidence of measurement. Furthermore, meters used for NABERS that have been certified with ISO17025 can only add further confidence for data centre operators.”

So what type of metering devices and capabilities are we talking about?

“Generally for data centres, metering devices will include multiple applications such as NABERS ratings, NMI Energy Billing and devices to measure the quality of the incoming power to the facility,” Davis said. “These devices should, as a minimum, incorporate interval data logging, event logs and real-time clocks to ensure no data is lost in the event of a power loss and/or communication loss, ensuring data is retained.”

How important is validation in maintaining compliance with NABERS and other standards?

“Without correct validation processes, all metering data becomes irrelevant,” Davis said. “It is not uncommon for many data centre operators — including at industrial and commercial sites — to find that the data they have been recording/reading from the meter for many years is incorrect.

“Again, this breaks down to the process of the validation and programming procedure completed on commissioning — not only of the meter, but verifying correctly the interface to the BMS and/or SCADA.”

According to Davis, well-designed meters can last for many years, but technological changes and regulatory requirements can have significant effects. “Ensuring the metering deployed has functions and features to meet changes and challenges for the future is important,” he said.

Things to consider include warranties, accuracy, whether the meter has event logs, interval logs and a real-time clock, and whether it supports Ethernet communication.

“Ensuring these basic features are covered will help reduce meter churn for the future,” Davis said.

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AUSTRALIAN UTILITY WEEK 2017



If you provide data or communication network services to the utility sectors, regional councils or commercial and industrial markets in the water or power management space, then the Australian Utility Week (AUSUW) is a must-attend event for you.

To be held from 29–30 November 2017 at the Melbourne Convention & Exhibition Centre, the event will focus on regional and global developments in smart grids, smart metering, smart cities, smart homes, energy storage, energy services and efficiency, intelligent buildings, big data analytics, asset management, analytics and IoT, cybersecurity, smart gas, field services, smart water, operational excellence and customer engagement.

Co-located with Energy Services Australia (ESA), the AUSUW is expected to be attended by 80+ exhibitors, 2000+ international visitors, 200+ speakers from 20 countries. Some of the new topics to be covered include: critical infrastructure grid security; AMI integrated digital water meters; energy efficiency and DR programs; smart space networks and controls; storage services and virtual power plants; smart grid enabled EV infrastructure; developing IoT-connected smart meters; artificial intelligence on cybersecurity; EV charging platforms and controls; automation, analytics and artificial intelligence; solar energy solutions for water utilities.

The event will feature three streams — Field Operations which includes Mobility, FSM and Geospatial solutions; Smart Grid & Meter which includes metering services and the connected world; and Digital Utility. It will also feature: Initiate! Startup; Innovation Zone (for research and development insights from the region's top energy and water technology researchers); and Technical Zone (new product insights from the top technology vendors).

Speakers include Australian and international utility leaders, smart grid technology innovators, and research and development professionals. These include: Frank Tudor, Managing Director, Horizon Power; Ian Kay, CFO, ARENA; Geoff Purcell, CTO, Melbourne Water; David Ryan, MD, City West Water; Kevin Angland, GM Digital Services, Mercury, NZ; Dan Halperin, Director, Corporate Strategy, PG&E Corporation, USA; Phil Johnson, CFO & GM Corporate and Commercial, South East Water; Pat McCafferty, MD, Yarra Valley Water, amongst others.

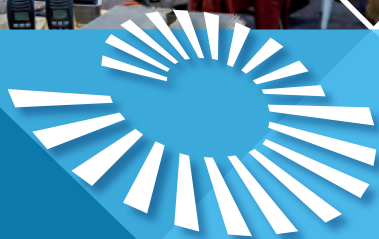
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Staying relevant



Utilities retail executives are asking themselves, “How do we become a trusted brand and reinvent ourselves before we are packaged into some other domain’s ‘bundle’?”

Since South Australia’s blackouts, we have been bombarded with energy security and affordability news. Other than renewables which made a remarkable PR recovery via Elon Musk’s giant battery, energy retailers have worn the brunt of the negative sentiment. As the (perceived) cause of record high energy costs, popular judgement of retailers has been harsh, now seemingly vindicated by our Prime Minister’s push to dismantle the traditional discounting model.

This groundswell of coverage has been preceded by years of declining retail margins, increased network charges and changing regulatory obligations driving seemingly unnecessary capital investment. It’s clear that the traditional cost-plus model of energy retailing is quickly becoming unsustainable. Couple these commercial and regulatory factors with continued high churn and consistent negative net promoter scores, and you have a sector facing continued atrophy and worse, rapid disruption.

Most utility retailers, including those in non-contestable markets such as water, have realised the need to offer ‘non-fuel’ or ‘next-generation’ products and services. The challenge for traditional utilities in shifting focus to these lines of business is the posture that every investment must have a clear business case. The start-up/agile/adaptive conversations that proliferate across so many utilities generally hold little clout when requesting funds from corporate business units.

The clear advantage the disruptors and start-ups to the market have is the lack of legacy brand issues and engrained corporate hurdles designed to minimise risk. Their innovative product and service concepts can start and stop without costly technology and business change overheads allowing rapid innovation until a profitable idea ‘sticks’. To match this agility, traditional utilities need to become truly transparent and leverage their large customer bases with ‘stickier’ complementary products and services. This shift poses tough questions: Are we cannibalising our own revenue?; Will people suddenly understand what we’ve been doing to them?; What if it doesn’t work? Unfortunately, the alternative to not making a change is clear — top 100 organisations will become insignificant, only to be replaced by more customer-centric aggregators of products, services, customers and, most importantly, loyalty.

As General Manager of Utilities at DB Results, Matt Nidd’s focus is to manage and grow the company’s Utilities business. As a highly experienced Program Director, he is sought after for delivery and advisory experience. He specialises in large projects for complex business problems. Matt will be presenting at Australian Utility Week 2017, to be held from 29–30 November at Melbourne Convention & Exhibition Centre.

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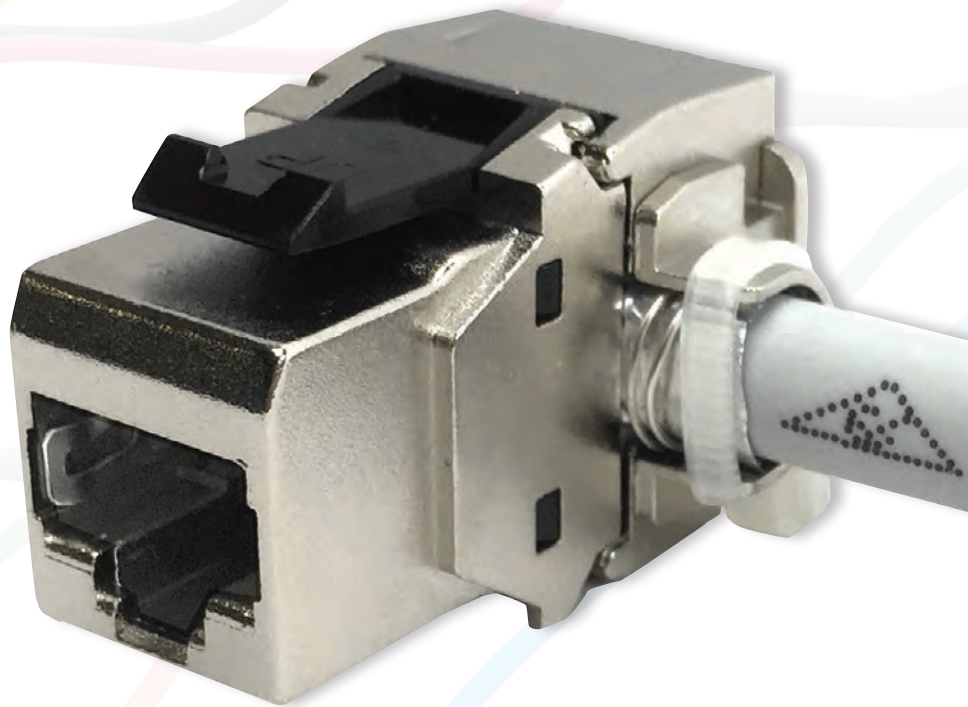
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