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Intrinsically Safe Digital Multimeter For Explosive Atmospheres



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IIC (gas) 0, 1 and 2



IIIC (dust) 20, 21 and 22



Mines M1



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Intrinsically Safe Digital Multimeter For Explosive Atmospheres

C Chauvin Arnoux is delighted to introduce the new MTX3297Ex, an intrinsically safe digital multimeter specifically designed for continuous use in hazardous and explosive environments. This robust, ergonomic, and highly accurate instrument delivers exceptional industrial performance, ensuring measurement reliability, enhanced electrical safety, and increased productivity.

Designed for ATEX/IEC Ex environments, the MTX3297Ex is certified for the highest levels of risk and classified as a Category 1 instrument and meets the most stringent safety requirements.

The MTX3297Ex carries the prestigious ATEX certification, which is recognised across the EU region, and is also IEC Ex-certified, affirming its compliance with essential safety standards.

Designed for versatility, the MTX3297Ex is certified for use in gas zones IIC (0, 1, 2), dust zones IIIC (20, 21, 22), and mining zones M1. This allows the device to be safely operated in a wide range of sectors, including oil, chemical, pharmaceutical, and mining industries.

In addition to its capabilities in explosive environments, the

MTX3297Ex delivers high performance outside of these zones while complying with the IEC Ex 61010-2-033 standard for measurements up to 1000V CAT III and 600V CAT IV. This makes it an invaluable instrument for industrial applications, even in non-hazardous areas.

The MTX3297Ex offers unparalleled efficiency, combining versatility, precision, and reliability to simplify electrical troubleshooting and industrial maintenance tasks across all sectors.

With the MTX3297Ex, Chauvin Arnoux continues to set the standard for safety, performance, and innovation.

**Learn more or request a
customised quote:**
cauk.tv/product-mtx-3297-ex/





PVL, Producers Of The Comprehensive Engineering Catalogue 'The Big Cat' Are Proud To Stock The World's First IIOT Pressure Gauge

In a bold step forward for process instrumentation, Orion Instruments has launched the Ogaugue—a trailblazing Industrial Internet of Things (IIoT) pressure gauge that redefines how pressure and related variables are measured, displayed, and managed across industrial environments.

Positioned as the world's first IIoT pressure gauge, the Ogaugue combines multiple critical functions—gauge, switch, transmitter, and data logger—into one intelligent, cloud-connected device.

"The Ogaugue is a game-changing, multi-purpose, IIoT-connected device for measuring pressure—and much more,"
— **Steve Moorey, Managing Director, PVL**

Designed for IIoT and Industry 4.0

At its core, the Ogaugue is engineered for intelligent industrial integration. It features a rugged stainless-steel pressure sensor, an IP66-rated enclosure, and a vibrant full-colour OLED display complete with a bar graph and alphanumeric output.

Configuration is intuitive, thanks to an onboard capacitive touch keypad and an accompanying mobile app for Android and iOS.

Through secure cloud connectivity, users can remotely program and monitor multiple Ogaugue devices from a unified dashboard—an ideal asset for predictive maintenance, remote diagnostics, and real-time process feedback.

Three Operating Modes, Limitless Possibilities

The Ogaugue supports three core modes, making it adaptable to a broad spectrum of industrial uses:

1. Pressure Measurement Mode

Suited for direct pressure measurement in pumps, tanks, or pipelines. Can also be configured as a force gauge for hydraulic systems or as a



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A guide to civil, structural and building asset management in process, industrial and production environments

Publication 238
Edition 1



Alarm systems
A guide to design, management and procurement

Publication 191
Edition 4



level gauge in liquid storage applications.

2. ΔP Differential Pressure (Planar Mode)

Provides both upstream/downstream and differential pressure readings. Ideal for applications where pressure imbalance indicates flow issues, system performance, or blockage.

3. Differential Monitoring for Filters & Flow

Color-coded display zones visually indicate filter condition or tank levels. Four programmable relays (5A @ 250VAC) allow for event-triggered automation, while two configurable analogue outputs link into DCS or PLCs for seamless logic integration.

Ogauge Key Features:

IIoT-capable with mobile and cloud dashboard integration

Four solid-state relays (5A, 250VAC)

Two configurable analogue outputs

Stainless steel sensor with 0.25% accuracy (upgradable)

IP66-rated housing

Touch keypad + mobile app configuration

Pressure, force, and level gauge capabilities

Differential pressure logic with trigger-based outputs

Full-colour OLED display with unit selection

Practical Performance with a Digital Edge

Where legacy gauges offer limited feedback, Ogauge provides actionable insights. Whether monitoring leakage, cylinder force, filter health, or fluid levels, the Ogauge supports automated control, mobile alerts, and cloud-based trend logging—all within a single, robust device.

Its adaptable interface, universal unit selection (psi, kN, kg, etc.), and field programmability make it ideal for OEMs, integrators, and maintenance engineers working across sectors like oil & gas, water treatment, pharma, and energy.

"With local and remote monitoring, the Ogauge is ideal for integrating into both existing and future-ready Industry 4.0 systems."

— Steve Moorey, PVL

Engineered for the Future

Orion Instruments has delivered more than just a pressure gauge—it has created a platform for intelligent control, laying the groundwork for the next generation of smart, connected instrumentation. With multi-mode functionality, advanced logic, and industrial-grade durability, the Ogauge sets a new benchmark in process monitoring.

Whether you're upgrading legacy systems or designing smart infrastructure from the ground up, the Ogauge offers a modular, digital-native solution that bridges performance, precision, and connectivity.

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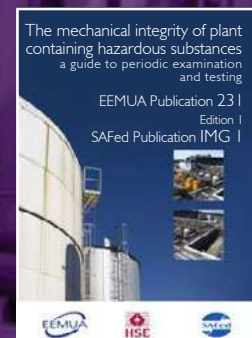
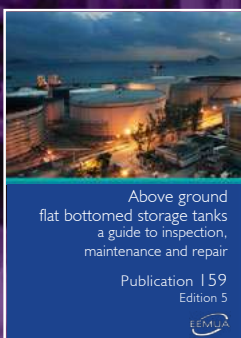
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Hart's Speedor Storms To The Rescue

The call to Hart Door Systems was straightforward – a company was having problems with two suppliers of industrial doors and a third party had recommended Hart Door Systems as the best option as the alternative deliverer of the industrial doors which would resolve the problem.

Carl Crossman, Hart's Project Manager, said the call was very much the part of a typical week at the forefront of manufacture of industrial/commercial industrial doors. "Because of our long-standing reputation as a major supplier of a wide range of industrial doors and the range of options we have, Hart is well placed to problem solve and deliver the very high standard of industrial doors necessary".

Mr Crossman confirmed an immediate site visit was carried out and an instant order for two Speedor Storms was placed. Both doors have now been installed and the performance of both will be monitored with a view to replacing other doors on the site. "The response was extremely positive. The Storms are a very high standard of automatic industrial door, an essential part of Hart's family of Speedor options."

Mr Crossman added: "Typically clients are attracted to the rapid roll Storm because of its robustness and exceptional wind resistance together with its energy-saving potential as well as controlling internal temperatures and reducing escaping noise and odours. It is an incomparable industrial door product in high demand because of its robustness and exceptional wind resistance together with its energy-saving potential and other very important features."

More about Speedor Storm

This rapid roll door is robust, low maintenance and delivers exceptional wind resistance in exposed areas. While its high-speed opening and closing action improve efficiency, the energy-saving potential of this rapid roll door is high, controlling internal temperatures, escaping dirt, odours and noise.

Special features include; moisture-controlled electrics, mechanical components shielded from dust and dirt, and a unique guide system offering exceptional wind resistance up to class 5 as defined by DIN EN 12424.

The high-performance exterior roller storm door is designed for frequent use in high traffic situations and constructed to withstand harsh environments.

www.hartdoors.com



Enerpac 'Open House' For Visitors To Experience New Hydraulic Tools 'In Action' At Bauma 2025

Visitors to the Enerpac stand at this year's Bauma, the world's leading trade fair for construction machinery, in Munich, 7 – 13 April, will have the chance to experience at first hand the benefits that Enerpac tools can bring to their businesses. On FS.1111/5, its largest ever stand at Bauma, Enerpac is operating nine demonstrations including excavator maintenance, joint pin removal, mini lifting systems and cylinders, as well as battery-powered pumps and torque wrenches and hydraulic gantries.

Enerpac Stand Must Sees

Demonstrations will include excavator maintenance with Enerpac SCJ-Series Cube Jacks. The cube jack lifting system offers a safer, CE-certified, approach to lifting and holding of the entire cab, boom and arm, allowing the undercarriage to be safely maintained. Also, joint pin removal using the Enerpac PPH-Series Hydraulic Pin Puller will be demonstrated.

With a pulling capacity of 40 to 67 metric tonnes, the PPH-Series Pin Puller provides a safer and more efficient removal of joint pins up to 302mm long. It uses a powerful, Enerpac hydraulic cylinder to extract pins with precision and minimal damage, allowing a single operator to remove a multitude of joint pin sizes easily.

The ease of manoeuvring heavy machinery in the tight confines of a factory floor will be demonstrated with the Enerpac ETT-Series Turntable capable of handling loads up to 400T, the Enerpac EMV-Series E-mover battery powered load skate - a self-propelled skate featuring a central load bearing plate, and Enerpac LHSS-400, 400 ton capacity low-height skidding system.

The right tool makes all the difference

The Enerpac stand will also feature a range of industrial tools drawn from Enerpac's growing range of battery-powered pumps and torque wrenches. In addition to environmental benefits, the tools enable higher levels of operational efficiency through access to online job data and monitoring.

For example, the Enerpac SC-Series compact, cordless battery pump

allows operators to undertake larger jobs in difficult to access and remote workspaces. With the 'Enerpac Connect' app, SC-Series pump operators can instantly access job-specific usage data for traceability and improved precision, as well as a knowledge base of tool information. While the Enerpac XC2-Series cordless hydraulic pumps offer higher speeds, longer battery run-times and greater oil capacity, allowing larger tool and multiple cylinder applications to be undertaken on a single charge.

Raising the bar for torque wrench performance at Bauma 2025 is the Enerpac BTW-Series Battery Torque Wrench. The most precise and fastest set-up battery-powered, torque wrench currently available.

For more information on Enerpac Industrial Tools and Lifting Systems, visit: www.enerpac.com.

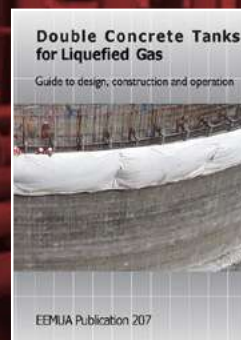
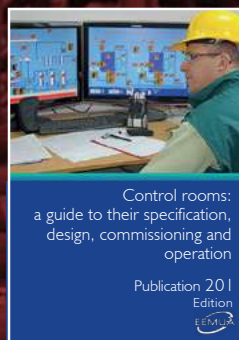


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Mike Hawes Appointed Managing Director Of ION Science Ltd As Duncan Johns Transitions To Director Of Innovation

ION Science Ltd, a global leader in photoionisation detection (PID) technology, is pleased to announce the appointment of Mike Hawes as its new Managing Director. This transition aligns with the company's strategic vision for continued growth and innovation, as Duncan Johns, who has successfully led ION Science since 1999, moves into the role of Director of Innovation.

ION Science Ltd is part of Hive Technologies Group Ltd, a dynamic group encompassing Analox, Shawcity, and ION Science. Under Duncan Johns' leadership, ION Science has strengthened its market position and significantly expanded its research, development, and manufacturing capabilities. A pivotal part of this growth has been the development of The Hive and The Hive Technology Centre (HTC), state-of-the-art facilities designed to drive future technological advancements. To differentiate its instrumentation division from its sensing technology solutions, ION Science recently launched the ION SENSE sub-brand, reinforcing its commitment to innovation across both product categories.

Duncan remains Hive Technologies Group CEO and transitions to Director of Innovation at ION Science Ltd, reflecting his unwavering commitment to pioneering new technologies and enhancing ION Science's position as the global leader in PID detection solutions. His vision has been instrumental in shaping the company's trajectory. In this new role, he will focus on steering the innovation roadmap to ensure ION Science remains at the forefront of the industry. This change complements the existing Board members, reinforcing a collaborative approach to driving technological advancements.

As the incoming Managing Director, Mike Hawes brings a wealth of experience and a deep alignment with the company's core values and business principles of innovation, quality, and customer focus. His leadership will build upon the strong foundation established by Duncan, ensuring a seamless transition and continued success for ION Science Ltd.

Duncan Johns commented on the transition: "I am incredibly proud of what we have achieved at ION Science over the past 25 years. The company has grown significantly, and our commitment to innovation has never been stronger. Moving into this new role allows me to dedicate my focus to advancing our technology and ensuring we remain the market leader in PID and sensing technologies. I have every confidence in Mike's leadership and look forward to supporting the next chapter of growth and innovation."

Mike Hawes added: "It is an honour to step into the role of Managing Director at ION Science Ltd. The company's

dedication to innovation and excellence is truly inspiring, and I am excited to build upon the incredible work led by Duncan and the team. ION Science has a strong reputation in the industry, and I look forward to driving its continued success alongside our talented workforce."

The Hive Technology Group, under Duncan Johns' leadership as CEO, continues to foster a culture of innovation and excellence across its subsidiaries. With ION Science's ongoing commitment to research and development, the company remains poised for a future of technological breakthroughs and sustained market leadership.

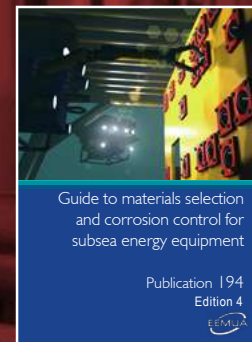
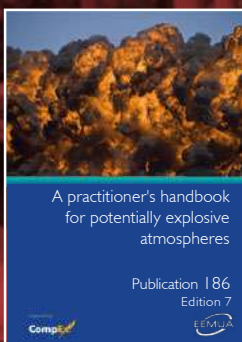
About ION Science Ltd

ION Science Ltd is a leading manufacturer of gas detection instrumentation and sensing technology, with a specialisation in photoionisation detection (PID) technology. With over 30 years of expertise, ION Science is committed to providing cutting-edge solutions for detecting volatile organic compounds (VOCs) and other hazardous substances to protect lives and preserve the environment. By ensuring workplace safety and reducing environmental impact, ION Science supports industries worldwide in their mission to maintain health and sustainability.

For further information do not hesitate to contact Lily Sainsbury via email lily.sainsbury@ionscience.com or please call 07740386453.



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Sherwin-Williams Expands Global Core Product Offering For Customers Worldwide

Sherwin-Williams Protective & Marine is delivering superior coating system consistency and specification efficiency with an expanded line of Global Core products that are available at the same quality and performance standards anywhere in the world. These universal products offer asset owners, engineers, specifiers and applicators peace of mind in ensuring compatibility, colour matching and performance on projects spanning multiple regions.

The new Global Core coatings include an inorganic zinc primer, epoxy primer, epoxy intermediate coat and urethane topcoat. These versatile coatings can be used in various combinations and with other products to create multi-layer coating systems for corrosion protection and aesthetics for a wide range of applications in the commercial infrastructure, bridge and highway, energy, manufacturing and processing, water and wastewater, and other markets. Each product is easy to apply while meeting the requirements of local, regional and global customers who expect consistency no matter the location.

The four additions to the Sherwin-Williams Global Core product line each meet the strict requirements of the ISO 12944:2018 and NORSOK M501 standards. These global standards define the minimum performance characteristics of coatings in an array of service environments, including the most severe C5 and higher conditions noted in ISO 12944:2018. Adhering to these international standards enables the third-party validated coatings to be specified and used around the world, as they will feature the same chemistry, technical data sheet information, coating performance data, standard colours and application characteristics regardless of where they are manufactured or sold. These characteristics make the Global Core coatings particularly advantageous for use in multiregional projects.

"Consistency enables uniformity – which are both key characteristics customers look for in coating systems when operating around the globe," said Sean Grady, Senior Global Product Director, Sherwin-Williams

Protective & Marine. "For example, a project featuring structural steel may be engineered in one region with the steel fabricated and coated in another region before being shipped elsewhere to be erected. Along the way, the initial specifiers, original coating applicators and final touch-up crew must be able to select the same coatings regardless of their location. Our Global Core products offer the same formulations and performance characteristics worldwide, allowing us to service projects wherever materials are needed."

The new coatings offer enhanced productivity and greater ease of application. On the productivity front, the coatings all have fast drying times, enabling the prompt application of subsequent coats and rapid handling of assets for delivery to job sites. This faster job throughput is further enhanced by application ease, including easy sprayability and tolerance, as well as standard mixing ratios, which minimize the potential for errors. The coatings' broad performance versatility also enables applicators to stock fewer additional products, helping optimize their inventory operations.

The new Sherwin-Williams Global Core high-performance coatings can be written into specifications or maintenance programs throughout the world without concern for formulation quality or consistency, and include the following products:

- Zinc Clad® 2500 – Inorganic Zinc Primer: Faster priming, handling and delivery of new construction assets is possible with Zinc Clad 2500. The inorganic zinc primer is heavily loaded with zinc silicate and is applied to bare-blasted steel in a fabrication shop environment. It provides excellent protection against corrosion (all the way up to ISO 12944 CX environments) and also meets the requirements of slip B for bolted connections. Superior application characteristics provide greater transfer efficiency, less waste and less time spent cleaning up dry spray. The thin-film coating cures quickly, with a 45-minute dry-to-handle time and a dry-to-recoat time of as little as four hours, both of which enable shops to accelerate throughput, maximize productivity and rapidly ship coated assets. This fast delivery pace also helps to accelerate construction schedules for enhanced builder productivity.

• Macropoxy® 4600 – Corrosion Inhibitive Epoxy Primer: Approved for ISO 12944 service environments of up to C5, Macropoxy 4600 offers a cost-effective anti-corrosion primer option for protecting carbon steel. The high-solids, multi-functional epoxy zinc phosphate coating enables fast applications, cures and asset handling – with no sweat-in time, dry-to-handle times of just three hours and a minimum recoat window of two hours – to enhance productivity. It also features a low-temperature cure, which means the product will dry faster at lower temperatures and will continue to cure even if it is moved outside during the winter months.

• Macropoxy® 2600 – Epoxy: In a traditional three-coat system, a high-build intermediate coat is a necessity to build film thickness as a barrier to protect the anti-corrosive layer below. Macropoxy 2600 offers just that, along with notable application efficiencies. The high-solids epoxy has a simple 4:1 mix ratio with no sweat-in time; it also dries fast, cures at low temperatures and has a rapid minimum recoat time of two hours, enabling applicators to move quickly to the final top coating step. Adding to the ease of application, both Macropoxy 2600 and Macropoxy 4600 share the same catalyst, enabling applicator inventory efficiencies, as shops only need to stock one hardener. Designed to withstand the most aggressive ISO 12944 C5 environments and higher in its original form, Macropoxy 2600 is also available in a formulation featuring micaceous iron oxide flakes for enhanced overcoating properties and barrier protection.

• Acrolon® 7700 – Urethane Topcoat: A durable finish coat of Acrolon 7700 over a high-performance anti-corrosion system offers both enhanced aesthetics and additional protection for steel assets. This two-component, high-solids acrylic polyurethane has excellent resistance to atmospheric exposures and maintains gloss and colour, even in highly corrosive environments. With reduced dry times, Acrolon 7700 allows applicators to rapidly move assets through shops for accelerated throughput. Acrolon 7700 also offers applicators ease of application with lower operating pressures, a wider range of film build requirements with no reduction needed and a simple 4:1 mix ratio to minimize opportunities for errors.

For more information on the Sherwin-Williams Protective & Marine Global Core products, visit <https://industrial.sherwin-williams.com/na/us/en/protective-marine/why-us/global-core-products.html>.



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Global Underwater Hub Establishes Taskforce to Tackle Subsea Cable Reliability and Performance

Global Underwater Hub (GUH) has today published a white paper on its approach to tackling a crucial issue that could derail the UK's clean energy ambitions.

The trade and development body, which represents the UK's £9.2billion underwater industry, has set out how it aims to improve the performance and reliability of subsea cable systems which are critical elements of offshore wind infrastructure, essential to transmitting electricity from offshore wind farms to the grid.

Globally, over \$800billion of investment in offshore wind farms is anticipated by 2030 and, for the world to hit net-zero emissions by 2050, the generating capacity from offshore wind must increase by a staggering 1,120 GW. Closer to home, the UK government has set ambitious targets of 50GW of installed capacity by 2030.

Neil Gordon, chief executive of GUH, said: "This scale of expansion, in both fixed and floating offshore wind, can only be achieved by installing and maintaining hundreds of thousands of kilometres of reliable subsea cables.

"The performance and reliability of these cables is therefore crucial to delivering the UK's clean offshore power ambition and global net zero targets. But these cables are highly susceptible to damage during installation and operation, leading to substantial insurance claims and costly downtime."

GUH has identified cable performance and reliability as a major issue which needs to be solved, especially as floating offshore wind, which requires even more complex dynamic cables, becomes an increasing percentage of the overall installed base.

Mr Gordon added: "Cable reliability not only makes offshore wind projects more economically viable but also ensures the energy supply is uninterrupted. It is therefore paramount not only to developers, investors and the industry, but also to the whole country, which will increasingly rely on the power that passes through them."

With a world-leading installed base of offshore wind capacity and a strong project pipeline, combined with a stable policy framework, GUH says there is a significant opportunity for the UK's underwater supply chain to lead the way in subsea cable systems.

In 2024, the Offshore Wind Industrial Growth Plan identified future electrical systems and cables, and the next generation of offshore installation, operation and maintenance as two of five areas in which the UK should be a world-leader. These areas were chosen because of the size and growth of the domestic and international markets, existing UK capabilities and track-record of developing solutions to complex technical challenges such as the deployment of the world's largest fixed offshore wind farms, coupled with the expertise honed in the oil and gas industry over the last five decades.

Mr Gordon said: "But, in addition to cable reliability, there are other major hurdles to be overcome, varying from supply chain constraints to cost escalation.

"Unlike fixed offshore wind, floating offshore wind has few standards and no established supply chain. Starting with this 'clean slate' and leveraging the vast experience over five decades in offshore oil and gas,

the UK has an opportunity to create a new generation of products and services that will unlock this emerging sector."

GUH's White Paper sets out the challenges and presents a solution for how the UK can tackle cable performance and reliability and, through first-mover advantage, become a centre of excellence for subsea cable systems in floating offshore wind.

By establishing and leading the UK Subsea Cable System Forum, GUH will ensure that the entire supply chain can effectively influence standards and policy to improve reliability, cost effectiveness and quality of cable systems supplied in the UK, enabling the country to become a world-leader in subsea cable systems for offshore wind.

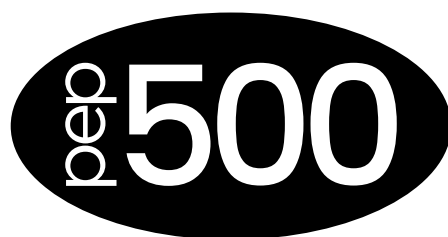
The forum, through the development of an agreed roadmap, led by an industry steering committee and working with partners across the sector, will drive innovation and improvements in systems-based design, data sharing and quality control. As a result of this increased collaboration, the forum will influence the development of the standards needed to reduce risk and increase performance.

Mr Gordon concluded; "This, in turn, will ensure that the UK becomes well-positioned as an authoritative centre of excellence for reliable subsea cable systems and solutions that enhance the economic viability of offshore wind projects and accelerate the development of floating offshore wind. Ultimately, the holistic approach by the UK Subsea Cable System Forum will avoid duplication and foster the collaboration needed to deliver the standards required for a new generation of products and services to the global floating offshore wind market."

The white paper can be downloaded at

<https://www.globalunderwaterhub.com/cables-whitepaper-registration/>





Now excellence has a name



Pep500 By Peppers Cable Glands – Defining Excellence, Reinforcing Trust



With a legacy spanning over seventy-five years, Peppers has built a reputation for quality, innovation, and integrity. Over time, the company has honed its focus and emerged as a leader in the cable glands and accessories sector. Today, Peppers is trusted by industries worldwide for its long-standing commitment to quality and service, providing cable gland solutions that meet the highest standards.

The introduction of PEP500 is an acknowledgment of what Peppers has always done – it is neither a radical new initiative nor a change in service. Instead PEP500 formally reinforces Peppers Cable Glands' unwavering commitment to quality.

PEP500 represents Peppers' own internal quality benchmark, highlighting the meticulous standards and time-tested, efficient processes that have defined the Peppers' name for over three quarters of a century. By giving a name to these long-established principles, Peppers provides customers with a visible framework that underscores its dedication to reliability, precision and performance.

At the heart of Peppers' success are its products - whether for everyday functionality to pushing the boundaries of innovation, each one is

made with the same meticulous attention to quality and precision that PEP500 epitomises.

PEP500 is not a departure from past methods or ways of working but an acknowledgement of the long-standing practices and success that define the Peppers name. It is a testament to the Peppers' approach: scrupulous craftsmanship and outstanding customer service.

For those who have yet to discover Peppers Cable Glands, PEP500 serves as a reassurance of Peppers' dedication to quality and reliability. For longstanding customers, it is a reminder of why they continue to choose Peppers – reaffirming that excellence is not just an achievement but an ongoing standard to uphold.



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Emergency Safety Showers And Eye Wash Stations

When it comes to the safety of workers out in the field, Aqua Safety Showers are the people to contact when it comes to emergency safety showers and eye wash stations. It isn't just about the end product, we will recommend and advise you on the best safety shower solution to suit your requirement. As there is no one-fits-all approach we have the flexibility to adapt or modify our units in our manufacturing facility in Great Britain.

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Inteliheat™ Hazardous Area Certified Heating Jackets From LMK Thermosafe Ltd

Inteliheat™ hazardous area certified heating jackets from LMK Thermosafe Ltd are revolutionising industrial heating solutions, offering unparalleled safety and efficiency for projects where heaters are required in potentially explosive environments.

Designed for use with drums, IBCs, and other containers, they ensure repeatable temperature control, critical for processes like viscosity management, freeze protection, and melting of solids.

Requiring precise thermal regulation, Inteliheat heating jackets paired with ProxATEX controllers offer the highest levels of reliability and safety.

LMK Thermosafe's advanced technology not only ensures safety but also optimizes energy use, reducing costs and environmental impact. These features have made Inteliheat a leading choice for any modern industrial projects seeking energy efficient and safety-compliant heating solutions.

Find out more at www.lmkthermosafe.co.uk and request a free consultation.

A NEW standout feature is their ease of integration with the Proxa-tex™ patented temperature controller. This ATEX/IECEX/UL/CSA certified controller provides exceptional additional precision and safety in Zone 1 and 2 hazardous areas.

It can be integrated directly onto the flexible jacket or mounted alongside.

By utilising NearField Communication (NFC) technology, users can effortlessly adjust control parameters using pre-programmed NFC cards, eliminating manual errors and ensuring consistent performance. These innovative systems allow for secure and efficient temperature management, even in high-risk areas.

Constructed with chemically resistant silicone-coated glass cloth and high-density fibre-glass insulation, Inteliheat jackets minimise heat-loss whilst maintaining uniform heating. The self-limiting design ensures safe operation without overheating.

Standard and custom designs for use with various container sizes and profiled shapes makes the range suitable for diverse industrial needs.

Inteliheat™ jackets meet stringent international safety standards. They operate on standard AC supply voltages without transformers, and are simple to install.

For industries heating volatile substances or re-



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THERMOSAFE LTD

www.lmkthermosafe.co.uk

Next-Generation Scanning Solution For Hazardous Environments: i.safe MOBILE's IS-TH2ER.1

In today's demanding industrial environments, efficiency and safety cannot be compromised. i.safe MOBILE addresses the challenge of safety in hazardous environments with its newly launched IS-TH2ER.1 handheld barcode scanner, specifically designed for seamless integration with the IS540.1 5G industry smartphone.

Extended Range, Enhanced Performance

The IS-TH2ER.1 represents a significant advancement in Ex-certified scanning technology. Featuring Zebra's SE55 scan engine with IntelliFocus™ technology, this Zone 1/21 approved scanner achieves an impressive 12-meter reading range, ideal for high-bay warehouses and expansive production facilities where accessibility is limited. One standout feature is the new green aiming device, which provides up to seven times better visibility than traditional red aimers. Combined with PRZM Intelligent Imaging technology, the scanner easily captures both 1D and 2D barcodes, even when they're damaged, dirty, or poorly illuminated, conditions frequently encountered in industrial settings.

Streamlined Operations

The design philosophy behind the IS-TH2ER.1 focuses on operational simplicity. The IS540.1 smartphone securely docks into the scanner housing and connects via the ISM interface, requiring no separate battery for the scanner itself. This integration eliminates the need to carry multiple devices while working in hazardous areas.

Versatile Industrial Applications

The IS-TH2ER.1/IS540.1 combination delivers exceptional value across multiple industries:

- Chemical & Pharmaceutical: Ensures material traceability and compliance with stringent quality assurance protocols
- Oil & Gas: Enables reliable documentation and monitoring in explo-

sive atmospheres

- Mining: Provides ATEX-certified scanning for safety-critical operations
- Food Processing: Supports tracking of ingredients and finished products in potentially hazardous environments
- Logistics: Facilitates efficient inventory management of hazardous materials
- Maintenance and inspection: Easy handling and Ex-certified design enables reliable use in demanding environments for machine and system maintenance and inspection

Customizable Performance

The Zebra 123Scan software allows for extensive customization of the IS-TH2ER.1 to save time and improve accuracy. Users can configure barcode types, scan settings, data formatting, and audible/visual signals to match specific operational requirements. Multiple configuration profiles can be established for different applications and users, simplifying device management across teams.

The Complete Package

The IS540.1 smartphone that powers this scanning solution features a 6-inch full HD display, 48 MP camera, powerful processor, and 4400 mAh replaceable battery. Additional features include a programmable side button for Push-to-Talk functionality and a dedicated red button for lone worker protection.

The IS-TH2ER.1 and the 5G smartphone IS540.1 of i.safe MOBILE combine performance, safety and reliability - the ideal solution for professionals working in critical and hazardous industry environments.

All picture credits: i.safe MOBILE GmbH



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Protection For Low-Pressure Tanks In A Wide Range Of Industries

In all industries in which sensitive process media are used, the highest demands are placed on maintaining the quality, shelf life and product purity of the processed liquid or solid substances. This is often the case in the food industry and in the chemical and pharmaceutical sectors.

The ELEVENT breather valve from REMBE protects vessels with low design pressures against over-pressure and vacuum in a pressure range of 2–200 mbar. This makes it the optimum solution for low-pressure vessels inside storage tanks, dryers and other vessels in the chemical, pharmaceutical and food industries.

For example, ELEVENT is ideal for use in dryers in which free-flowing process media, such as cocoa, raw tablet materials or teas, are processed under vacuum. If the vacuum pressure inside the vessel begins to drop, the valve opens and thus ensures targeted pressure equalisation, which is of immense importance both for the stability of the dryer as well as the quality of the sensitive substances inside. Controlled maintenance of the pressure level is achieved via a very low leakage rate of up to 1×10^{-6} mbar x l/sec. This prevents both emissions of volatile gases or other environmentally harmful substances, as well as the formation of explosive mixtures or a potentially dangerous ingress of air.

The ELEVENT's modular design makes it possible to manufacture the individual parts of the breather valve from different materials, such as stainless steel or Hastelloy, and to use special coatings, such as Halal, to meet the challenges of the respective processes. The use of housing clips not only allows the individual components and gaskets to be selected in accordance with the relevant process conditions, such as extreme temperatures, pressures and process media – but also ensures they can be replaced without a problem. Maintenance and cleaning work can also be carried out quickly and easily.

For substances that require high product purity, oxidation is one of the greatest dangers. If oxygen or gases from the atmosphere penetrate inside the vessel, there is a risk of significant

economic damage for the company concerned. To prevent this, the -KLI version of the ELEVENT features an inerting connection that introduces the required amount of nitrogen to prevent subsequent reactions with the medium.

All in all, REMBE's ELEVENT represents a safe solution for plants in a wide variety of fields. Indeed, numerous market-leading plant manufacturers worldwide have already chosen to rely on the high quality and efficiency of the ELEVENT breather valve.

www.rembe.de



Fig. 1: ELEVENT breather valve





Explosive Atmospheres 101 – Part 2

Selecting Ex Concepts Of Protection

The Explosive Atmospheres market is both lucrative and expanding, but certification requirements—and the level of scrutiny by both buyers and regulatory authorities—are increasing. To access this market, it is imperative that equipment manufacturers understand the specific design, manufacturing, and certification requirements for their products.

When a 'Zone' has been established, special precautions must be taken by the manufacturer to reduce the likelihood of ignition to an acceptable level—and, where necessary, use mitigation measures to reduce the consequences of an explosion. These special methods are typically achieved by applying defined EX concepts from published standards and usually require specially designed products. The 'a', 'b', and 'c' designations after the protection concept indicate the level of protection:

a = Zone 0/20

b = Zone 1/21

c = Zone 2/22

Selecting the correct concept (or often, a combination of concepts) is critical before any design or development takes place.

Examples of Commonly Recognised Ex Concepts of Protection

FLAMEPROOF: Ex da, db or dc

A method of protection where the equipment is contained within an enclosure capable of withstanding an internal explosion of a flammable gas or vapour without damage, and without transmitting the internal flame to the external explosive atmosphere through any joints or structural openings.

INTRINSIC SAFETY: Ex ia, ib or ic

A protection technique based on limiting the electrical energy within the apparatus and interconnecting wiring exposed to an explosive atmosphere to a level below that which can cause ignition—either by sparking or heating effects.

PRESSURISATION: Ex pxb, pyb or pzc

A method of protection using pressurised protective gas to prevent the ingress of an explosive atmosphere into a space that may contain an ignition source. If necessary, it includes continuous dilution of any atmosphere within that space that might contain an emission source.

INCREASED SAFETY: Ex eb or ec

A method of protection in which additional measures are applied to electrical apparatus to provide increased security against excessive temperatures, arcs, and sparks during operation.

LIQUID IMMERSION: Ex ob or oc

A method of protection where electrical apparatus is made safe by oil immersion, preventing ignition of an explosive atmosphere either above the oil or outside the enclosure. The oil acts as a barrier between the explosive atmosphere and the electrical components.

POWDER FILLING: Ex qb or qc

A method of protection where the enclosure is filled with granular material, so that if an arc occurs, it is unlikely to ignite the external explosive atmosphere.

ENCAPSULATION: Ex ma, mb or mc

A method of protection in which components that could cause ignition by sparking or heating are enclosed in a compound, preventing any contact with the explosive atmosphere.

NON-INCENDIVE: Ex nC or nR

A type of protection applied to electrical apparatus such that, under normal operation, it cannot ignite a surrounding explosive atmosphere—and any fault capable of causing ignition is unlikely to occur.

In addition to these commonly used elec-

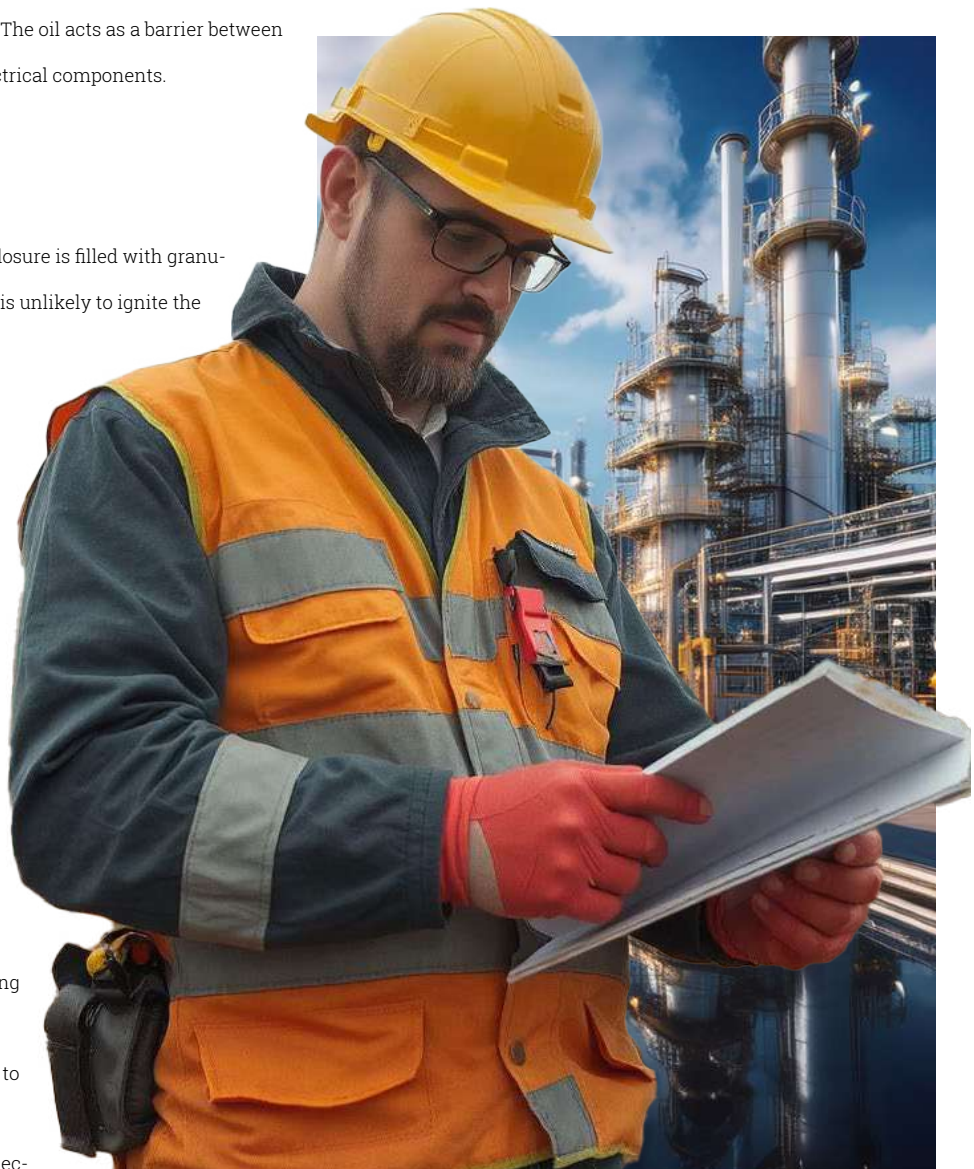
trical concepts, there are also protection methods for:

- Non-electrical equipment (Ex h)
- Optical equipment (Ex op is, op sh, and op pr)
- Dust-only atmospheres (Ex ta, tb, and tc)

Where no standard concept is suitable (which is very rare), special protection may be used (Ex sa, sb, and sc). However, this is a complex and challenging process.

Sean Clarke CEng MSc FIET is the General Manager of ExVeritas are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body and Test Laboratory, ExVeritas offers design reviews to help determine which protection concepts are feasible for your equipment and training courses for equipment designers.

www.exveritas.com for more information.



BVC Industrial Vacuum Cleaners for ATEX zones and Hazardous Dusts

Hazards from dusts and spilled product fall into two distinct categories; the first is dusts that are hazardous to health. This category includes obvious products like asbestos and silica dust, but any dust that can be breathed in by the operator or other personnel in the workplace is likely to be hazardous to health to a degree. Industrial Vacuum Cleaners with M-Class and H-Class filtration ensures hazardous dusts are appropriately handled when being recovered.

The second category is dusts that are hazardous in the environment. The obvious category is dusts that can potentially cause an explosive atmosphere, particularly organic products like sugar and flour. Some products fall in to both categories such as wood dusts, which are both hazardous to health and potentially explosive. ATEX rated Industrial Vacuum Cleaners must be specified for use in ATEX zones.

Selecting an appropriate Industrial Vacuum Cleaner requires careful consideration of the potential hazards which then informs the specification of the machine. BVC – British Vacuum Cleaners is the leading brand of British manufactured industrial vacuum cleaners. Manufactured by Quirepace in Fareham, Hampshire the range includes both M-Class and H-Class machines for dusts hazardous to health and ATEX rated equipment suitable to operate in potentially explosive atmospheres.

Quirepace's extensive knowledge combined with our experienced sales team, UK manufacture, and local service and spares support, means that BVC UK manufactured Industrial Vacuum Cleaners, with their 5-year parts warranty, deliver excellent durability and value for money in the industrial environment.

In addition to portable equipment, Quirepace also design and install fixed installations for Central Vacuum Cleaning, where multiple outlets are served by central plant through a network of fixed pipework. Contact us today to arrange an initial consultation meeting.

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Smart-Ex® 03 From Pepperl+Fuchs – A Smartphone As A Proven Alternative To Ex-Cameras

Inspection and maintenance tasks in hazardous areas are always particularly challenging. To enable mobile workers to carry out their tasks in such Ex-zones, they need specially developed devices that are certified for use under these conditions. One of the most important devices for such applications is a camera that can be used, for example, to document damage to the plant or maintenance work that has been carried out. However, Ex-cameras that have been specially developed and approved for these applications represent isolated solutions that still require the transport of additional work equipment.

However, just as in the consumer segment, where compact digital cameras have long since been replaced by smartphones, there are proven alternatives to the use of Ex-cameras such as the explosion-protected Smart-Ex® 03 from Pepperl+Fuchs. Its main camera with 13 megapixels, LED flash and autofocus not only allows the recording of high-quality images, but also videos in full HD resolution. In addition, it's possible to automatically identify objects or scan barcodes. The 6-inch display is also better suited for reviewing the images taken than the small and low-resolution camera screens.

Smartphone in a camera-only variant

The Smart-Ex® 03 is optionally available in a camera-only variant which has all its smartphone functions deactivated via kiosk mode, so that only the camera and associated applications can be used. This prevents users from intentionally or unintentionally installing unauthorized applications or changing the system settings. The restriction can be lifted by the manufacturer at any time via the kiosk mode, so that a 5G smartphone with all functions is available when needed, thus ensuring future-proofing.

Comprehensive communication functions

In addition to the camera functions, it is the supported communication standards and applications that make the Smart-Ex® 03 a versatile tool. Thanks to 5G, the quick transmission of large amounts of data directly from the site of operation to the cloud, to the company network or by email – where authorized by the company – is no problem. With a camera, on the other hand, data can often only be transmitted after returning to the office by physically connecting the SD card with the stored images to the office computer. Thanks to the desktop mode of the Smart-Ex® 03, the smartphone itself can function as a fully-fledged computer replacement in the office, so that there is no need to transfer data at all.

With the Smart-Ex® 03, mobile workers also have the option of contacting remote support by phone or video call at any time in the field. The front camera with 5 megapixels guarantees clear images. The freely programmable side button of the Smart-Ex® 03 can be customized for the appropriate application. For example, it can be configured as a push-to-talk or emergency call button so that mobile workers can quickly call for help at their current location in an emergency.

Comprehensive advantages for users

To ensure that the Smart-Ex® 03 can always be used optimally, even under adverse conditions, it features a so-called glove mode. This mode increases the sensitivity of the touchscreen so it can be operated precisely even when wearing gloves. Thanks to the double-tap feature, the device can be locked by simply double-tapping on the home screen. This eliminates the need to feel for the on/off button on

the side, which can be a challenge when wearing gloves. In addition, both left- and right-handed workers benefit from this feature.

In contrast to an Ex-camera, the Smart-Ex® 03 also handles scanning tasks with ease thanks to its main camera with autofocus and phase detection. The eBARCODE-ML app provides users with a powerful, machine-learning-based solution for scanning barcodes or QR codes. The app can also be used to read RFID data via the device's NFC functionality. The data is only stored locally on the device; it is not transferred to other locations.

The performance of the main camera also enables the use of augmented reality applications for scenarios such as predictive maintenance or remote support. With the help of sensors, the smartphone recognizes the scanned object and displays all relevant technical data on the screen. This saves time, enables rapid response times and ensures precise maintenance and inspection of industrial objects. Even in emergencies, the AR application helps with a quick and easy scan of the environment to quickly locate fire extinguishers, rigging points or safe escape routes.

Future-proof thanks to Android Enterprise Recommended

Google's Android Enterprise Recommended certification guarantees that the Smart-Ex® 03 will receive multiple Android upgrades and be provided with regular security updates. Starting in mid-2025, the smartphone will be delivered with the current Android 15 operating system version. As an Android Enterprise Silver Partner, it is also guaranteed that worldwide support will always be available to quickly and easily solve any problems that may arise.

About Pepperl+Fuchs

As one of the leading companies in the automation industry, Pepperl+Fuchs is considered a pioneer in its markets worldwide with groundbreaking technologies. For conventional and future applications, the company based in Mannheim, Germany, offers a comprehensive portfolio for factory automation and for the process industry. At the same time, Pepperl+Fuchs is constantly advancing pioneering technologies and thus paving the way for its customers to meet the coming challenges of Industry 4.0.

<https://www.pepperl-fuchs.com>



Kerstar Vacuums For ATEX Zone Cleaning

In Great Britain, the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) require employers to eliminate or control the risks from explosive atmospheres in the workplace. This includes adhering to two European Directives including Directive 2014/34/EU, also known as the ATEX Equipment Directive, which concerns equipment and protective systems intended for use in potentially explosive atmospheres.

Folland, comments, "It's really important that employers ensure they are providing equipment which is fit for purpose – particularly in potentially explosive atmospheres. This is just as important for cleaning equipment as it is for production machinery. Everything used in an ATEX rated Zone must be certified to meet the ATEX Directives."

Find out more about Kerstar's ATEX certified and Type H (suitable for use with hazardous dusts) vacuum cleaners by visiting www.kerstar.com.

Production facilities that use combustible powders as part of their production process, or those which create a very fine waste which is classed as combustible dust, should all use ATEX rated equipment.

Kerstar's UK manufactured ATEX certified industrial vacuum cleaners are suitable for use in Gas Zones 1 and Dust Zones 21 & 22 – as specified on the rating plate on every unit. All of Kerstar's compressed air (KAV range) and electric (KEVA range) ATEX vacuums provide three-stage filtration which includes a specially designed microfibre bag with a cap which, when closed, cannot be re-opened, and a HEPA H14 filter – offering 99.995% efficiency for dusts and powders as fine as 0.3 micron.

All KAV and KEVA models offer stainless steel canisters mounted on a stainless steel caddy fitted with conductive braked castors and wheels - this ensures each vacuum is antistatic and conductive from top to bottom. Every machine is supplied with a fully conductive hose and accessory kit, and a full earth path continuity certificate.

Kerstar Business Development Manager, Brian

KERSTAR

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Manufactured in the UK
by Filtermist Limited



Proximity Switches With Enhanced Resistance To Water Vapor

EGE-Elektronik offers robust inductive proximity switches that are resistant to high-pressure cleaning and water vapor. The IGMW series was specifically designed for use in processes with regular high-pressure cleaning as well as in washing bays and cooking processes.

The climate-change-resistant, specially sealed sensors have a stainless-steel housing and a PTFE cap and are suitable for food processes.

Featuring an IP68/IP69k rating, they can withstand both submersion and repeated high-pressure cleaning with water or steam. The sensors operate reliably at ambient temperatures between -25 °C and 120 °C, even with frequent temperature fluctuations combined with high humidity. They are available in M12, M18 and M30 designs with a 2-meter FEP cable and in customized designs.

EGE also supplies climatic proofed inductive proximity switches for cleaning processes, washing bays, food and paper manufacturing processes (IGMF tropical series) and applications where sensors are repeatedly flushed with roller emulsion (IGFW, INFW). The series has proven itself for over 40 years and has been constantly improved and adapted.

For example, the manufacturer has recently added a sensor in M8 design with an increased sensing distance (IGMF 202 GSP). The proximity switches withstand frequent temperature changes, flooding, vibrations and high-pressure cleaning without any problems. Their chemical resistance and tightness exceed the requirements in industry standards.

More information about IGMW proximity switches with increased resistance to water vapor:

<https://ege-elektronik.com/igmfwen>



Explosion-Proof Compressor Motor For Oil Refinery

Producing a customized explosion-proof high-voltage motor within just 12 calendar days, Menzel Elektromotoren saved an oil refinery a considerable amount of money. The failure of the previously installed compressor motor was causing enormous financial damage.

The team of the German family business Menzel worked on this project with considerable commitment, including weekend shifts, and thus completed all necessary works in record time.

An in-stock MEBKSW-type three-phase squirrel-cage induction motor in size 710 was enabled for ignition protection type Ex ec, increased safety, with purging. Menzel's certified explosion protection experts gave it the ATEX marking II 3G Ex ec IIA T3 Gc and prepared the ex-

tensive documentation required by the customer within the tight time frame.

The motor generates an output of 10 MW and 64132 Nm rated torque at 6600 V rated voltage. It features IP55 protection and IC 81W cooling (air-to-water heat exchanger) and is suitable for outdoor installation and the increased ambient temperature range of -20 °C ... 48 °C. To ensure a smooth installation in the existing plant environment, Menzel made various mechanical adaptations such as machining the motor shaft, manufacturing a new base frame and providing flanges for the purging device.

More about electric motors with ignition protection type Ex ec, increased safety:

<https://www.menzel-motors.com/ex-na/>



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Predictive Maintenance In Hazardous Locations

In avoiding costly breakdowns, Condition Based Maintenance (CBM) is proven to be far superior to Planned Periodic Maintenance (PPM). Not only is PPM needlessly costly, due to the time wasted stripping down perfectly functioning machinery, it can sometimes make matters worse by introducing faults during the process of stripping down and rebuilding the machine. Even more of a problem is deciding the correct PPM time intervals. Too short an interval, means more wasted time and cost (and more potential for introducing faults) but too long means more unexpected breakdowns.

CBM makes use of tools such as vibration and temperature analysis to run an efficient and effective maintenance program able to predict faults BEFORE they occur. This is where the major cost benefit of CBM lies. Repairing faults AFTER a breakdown can be VERY costly, particularly where there has been collateral damage and/or injury to personnel. This is even more the case in hazardous locations where a complete shutdown of operations may also be required to effect repairs.

However, for use in hazardous locations, CBM instruments are required by law to be intrinsically safe and unable to ignite explosive atmospheres (ATEX). This means that vibration and temperature analysers must be CERTIFIED for use in the hazardous location. But the certification rules are different in different parts of the world AND in different "Zones" where explosive atmospheres are likely to exist. For example, a tanker vessel could visit many different oil and gas terminals in different countries, or a maintenance team might find themselves working unexpectedly at a wastewater treatment plant with the potential for methane build-up. So, how do you know you have the correct certification for your tools in all the different locations?

The simplest solution is to cover all eventualities by using instruments certified for Zone 0 (hazard exists continuously). Normally, that would make them much more expensive but fortunately, Test Products International (TPI) has achieved a significant cost breakthrough with the very affordable TPI 9085Ex vibration analyser. With built-in on-meter diagnostics and the all-important ability to TREND readings over time, the "go anywhere" TPI 9085Ex has WORLDWIDE Zone 0

certification, meaning it can be used in ANY hazardous atmosphere and in ANY location.

The 9085Ex detects unbalance, misalignment and looseness in rotating equipment. It also measures "bearing noise" and displays it in bearing damage units (BDU) roughly equivalent to "percentage bearing wear". In addition, the 9085Ex uniquely incorporates a directly contacting TEMPERATURE sensor within its vibration probe. This gives a highly accurate, virtually instantaneous, surface temperature reading for the bearing, simultaneously as the vibration reading is taken. With a high BDU reading and high temperature, you know that what you are seeing really is a worn bearing.

The compact handheld TPI 9085Ex is extremely affordable and simple to use and an invaluable part of every maintenance tool kit. It can be used standalone for fault diagnosis or by using the FREE TPI Bridge App, "routes" and readings can be transferred to and from the 9085Ex anywhere in the world using mobile devices (e.g. smart phone or tablet PC) and then via Bluetooth to and from the 9085Ex. "Routes" are simply lists of machines showing exactly what readings need to be taken and where to take them. The readings are then automatically time and date stamped by the 9085Ex and saved back into the route for automatic transfer to computer-based trending software.

For more information please contact TPI Europe's head office on +44 1293 530196 or take a look on the website at www.tpieurope.com or email sales@tpieurope.com





The UK Expo For Process Engineers Returns This May

The Process & Chemical Engineering Show, running as part of the CHEMUK 2025 'Group of Events', will return this 21st & 22nd May at the NEC in Birmingham, presenting hundreds of exhibitors and a full programme of expert speaker sessions over two packed days.

The Process & Chemical Engineering Show will showcase the latest technology and specialist services to attending process, plant, and control engineering professionals across the chemical, food & beverage, pharma, oil & gas, water & waste, and energy sectors.



Records numbers of NEW exhibitors confirmed

2025 will welcome over 60 brand new exhibitors for visitors to meet with including:

Six Process Design, Abacus Valves, ABLE Instruments & Controls, Addison, ALBIN PUMP / LMI/ Milton Roy Mixing, Ambic Equipment, Andritz, APIS MC, APMG Plastics, ARTECH ULTRASONIC SYSTEMS, AVA-Alms Valve Agency, AZO, Barriquand Heat Exchangers, Beckhoff Automation, Buckley Industrial, C&P Engineering, Chemviron Carbon, Co-ax Valves, Cognite AS, Dabico Airport Solutions, dataPARC, DESAL Supplies, DINNISSEN Process Technology, Elta Group, EPC Handelges, EUROTEC, Framatome, Friedheim International, G Bopp & Co, GMM Pfaudler, Hecht Technologies, Humberside Engineering Training Association, HYDAC, Hydrodif Products, Innomotics, Intertec-HESS, J1 Technologies, John Mayes Engineers, Johnson Valves, Kecal Pumping Systems, Knitwire, KROHNE, Meller, Merinox, OLG, Portobello Engineering, PR Electronics, R&G Fluid Power, Sampling Systems, Sandfield Penstok Solutions, Sigma-HSE, Simmatic Automation, SM Gauge Company, Spiroflow, Step on Safety, Stepart Plastics, Sulzer Pumps Wastewater, Tantaline, Transworld Steel Enterprise, UK Extrusion, Visilume, VOOVIO Technologies, W.E.C (Leeds), Watlow, Ytron-Quadro Limited, and Zwick.

IChemE and IMechE to headline engineering speaker programme

The Process & Chemical Engineering Show speaker programme is an unmissable opportunity to hear from the heads of industry and academia as they discuss the challenges, opportunities, and innovation affecting the process engineering industries.

The IChemE and IMechE will be presenting a series of expert panel discussions, keynotes, and technical clinics at the show. Their respective membership teams will also be exhibiting, ready to meet with current and potential members and companies to see how they can support their personal and business development.

The full speaker programme will be released in March 2025. Please see the website for full details.

'The Big Education Debate' at CHEMUK

This feature session, running on Thursday 22nd May, will invite senior panel leaders from across academia and industry to discuss the UK's educational framework and commitment to supporting its science skills and science base requirements. This critical debate comes in response to the recent pressures facing higher education chemistry departments across the UK.

Innovation Ecosystem at CHEMUK 2025

CHEMUK 2025 will present several of the UK's primary innovation support organisations, giving startups and spinouts the opportunity to receive the support they need to continue their development journey towards full-scale commercialisation.

Participating partners include the Henry Royce Institute, Innovate UK Business Connect, CPI, Aston University, RSC Changemakers, Materials Innovation Factory, and the Biorenewables Development Centre.

Waste2Race: The sewage-powered car on track to make history
Visitors this year will be able to see the hydrogen-powered Le Mans Prototype class 3 car, fuelled by sewage in a project entitled Waste2Race.

The engineering team behind the project from the University of Warwick will be at the show to meet with visitors and explain the technology creating green hydrogen from wastewater, powering the ground-breaking vehicle.

UK Government at CHEMUK

Attendees will be invited to a full UK Government programme at CHEMUK. HSE and DEFRA will be providing industry briefings on Wednesday 21st May.

The UK Export Academy team will be exhibiting at the show, ready to

meet with visitors that are looking to develop international trade opportunities. The academy team will also be running a one-hour panel session on Thursday 22nd May, outlining the international trade landscape.

DATES FOR THE DIARY

The Process & Chemical Engineering Show at CHEMUK 2025 takes place on Wed 21st & Thu 22nd May 2025

Venue: NEC - National Exhibition Centre, Birmingham, B40 1NT

Opening Times:

Day 1: 9.30am – 5.00pm

Day 2: 9.30am – 4.00pm

Register for your FREE entry badge at www.chemicalukexpo.com



21st & 22nd May 2025 The NEC, Birmingham, UK



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Construction Project Presses Home The Advantage Of Using Hoist & Winch

To ensure the safe, effective and efficient transfer of plant equipment into the basement energy room of a new residential tower block in London, a major construction project leveraged the advantages of appointing Hoist & Winch Ltd as its supplier of turnkey lifting equipment. Tasked with meeting the requirements of a technically challenging brief, Hoist & Winch demonstrated why it has become the nation's go-to solution provider of high-quality lifting systems.

Many new tower block development projects face a common chal-

lenge: how to install large, heavy pieces of equipment into the building's energy centre, typically located in the basement. Specifying the optimal hoists is paramount to project success. Fortunately, the subcontractor supplying and installing the energy room's plant for this particular project knew where to turn for a turnkey lifting solution: Hoist & Winch Ltd.

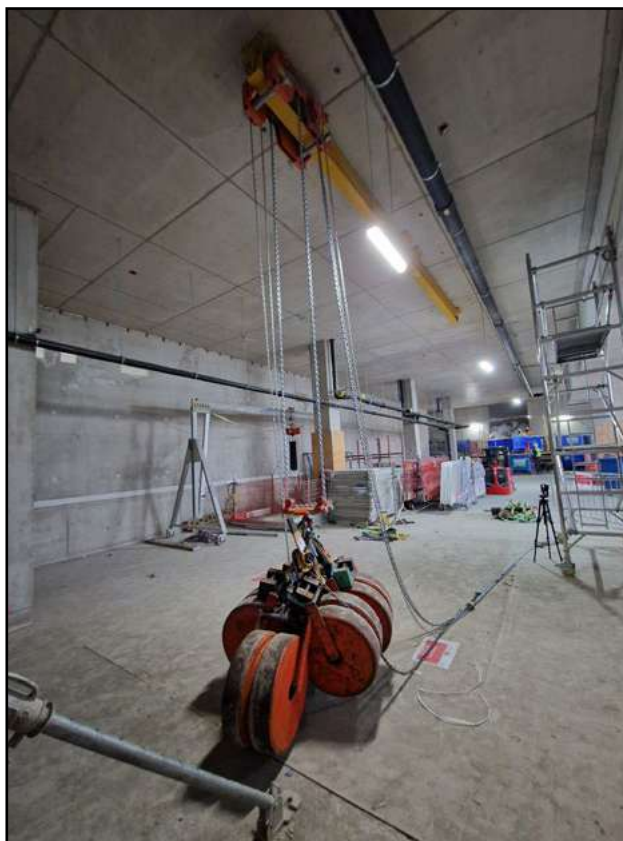
Hoist & Winch has extensive experience in all kinds of construction and industrial lifting applications. The company offers sales, installation, service, inspection, repair and hire services, with a special emphasis on project work. Supplying the optimal solution, with safety as the number one priority, is always the objective.

During the design phase, after formal tender and contract award, Hoist & Winch set about identifying the optimal solution by carefully assessing the specific lifting requirements. The project required the installation of hoists on both the upper and lower ground floor levels to ensure the successful lifting and transfer of large energy plant. It was clear from the outset that the solution would need to overcome the issue of very tight headroom clearances due to the size of the equipment.

After thoroughly considering all aspects of the project, Hoist & Winch Ltd was able to put forward its proposal, recommending two William Hackett low-headroom manual hoists, both with a hand-gear trolley. Offering a safe working load (SWL) of 2.5t each, the hoists provide 8m of lifting height and run on beam lengths of 8.5m and 7.0m.

Hoist & Winch duly submitted its design proposal, including drawings and structural calculations, for approval by engineers at the main contractor. Following approval, the company commenced manufacture before delivery to site.

During the installation phase, Hoist & Winch tested the installation anchor points to 1t before raising each beam into position using hand chain blocks. Elevating the beams to full height and clamping them hard against the concrete ceiling ready for drilling required the use

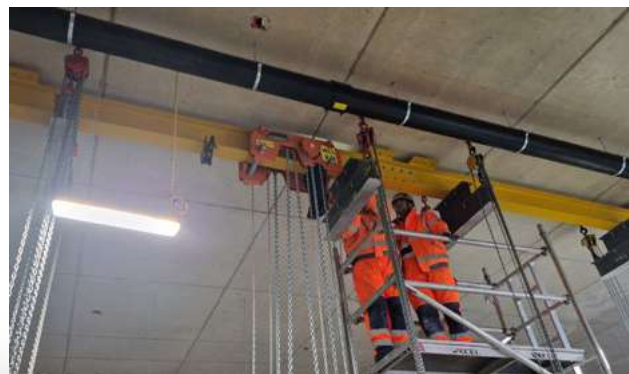


of special lifting rigs. Once in position, the company proceeded with drilling operations and resin anchor installation for all ceiling anchor points after meticulously cleaning each hole with a special heavy-duty internal brush and suction pump. Following the specified resin curing time, Hoist & Winch tightened each anchor bolt to the required torque levels.

LOLER (Lifting Operations and Lifting Equipment Regulations) inspection of the lifting beams and manual chain hoist units was the final operation. This activity included dynamic load testing of both beam lengths with a 2.5t skid-mounted test load followed by 125% static proof load test in accordance with BS 2853 2011. As a point of note, following customer handover, the hoists were to remain in place for use by the on-site maintenance team.

"We provided the client with a comprehensive project records and documentation package upon completion of works, which is standard practice," says Hoist & Winch Director Andy Allen. "We then went through the handover process to ensure total peace of mind for our client. At Hoist & Winch, our focus is on ensuring customers benefit from our exceptionally knowledgeable team who never fail to deliver on their promise of providing a detailed and proficient approach to every project."

Visit www.hoistandwinch.co.uk for further information and to view recent case studies.





Bureau Veritas' NEMS: Advanced Noise Management for High-Risk Industries

In challenging industrial environments, effective noise management is crucial for worker safety and regulatory compliance. Bureau Veritas, a global leader in testing, inspection, and certification services, has developed an innovative solution to address this critical need: the Noise Exposure Management System (NEMS).

NEMS: A Comprehensive Approach to Noise Management

NEMS is a proprietary, comprehensive management system developed and offered exclusively by Bureau Veritas. It provides a systematic approach to noise management, ensuring consistency and effective comparability in determining noise risk across industries. While initially developed for the oil and gas sector, NEMS can be deployed across any industry where there are high-risk noise areas.

The system has become so widely adopted that it is now considered the

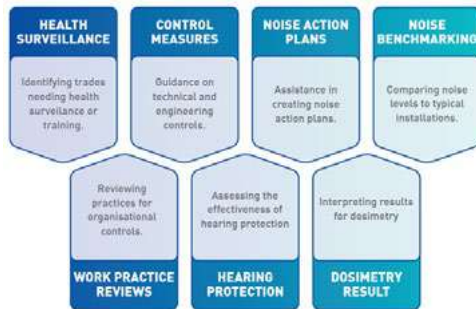
industry standard for risk assessment of occupational noise by the UK Health and Safety Executive (HSE).

Key Features of NEMS:

1. **Exposure Level Calculation:** NEMS accurately calculates noise exposure levels for the workforce, identifying areas or tasks that contribute most significantly to noise exposures.
2. **Targeted Risk Reduction:** By pinpointing the highest contributing areas to people's noise exposure, NEMS allows for a targeted approach to implementing noise control measures.
3. **Compliance Monitoring:** The system provides recording facilities for assessing ongoing compliance and demonstrates commitment to reducing noise exposure.
4. **Key Performance Indicators:** NEMS results can be used to quantify KPIs related to noise exposure risk.
5. **Adaptability:** As a live and evolving system, NEMS can easily incorporate new areas, trades, and work patterns, ensuring the risk assessment

remains up-to-date.

Practical Applications and Benefits



NEMS offers a range of practical benefits for industries dealing with high noise levels:

NEMS Output

The system provides valuable outputs, including:

1. **Area Ranking Scores:** Determines the highest contributing areas to people's noise exposure, helping prioritize noise control efforts.
2. **Personnel Noise Exposure:** Predicts individual noise exposure based on measured levels and work patterns, ensuring appropriate categorization under relevant legislation.
3. **Detailed Noise Exposure Information:** Helps manage workforce exposure by clearly indicating action value groups and contributing areas.
4. **Log Sheet:** Automatically tracks updates, calculates new KPIs, and plots graphs showing Asset Score and number of lower and upper action value cases over time.

Industry-Wide Adoption

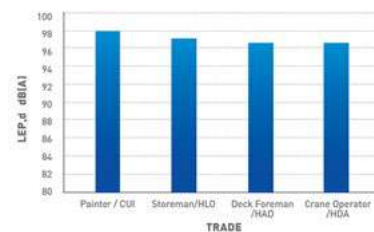
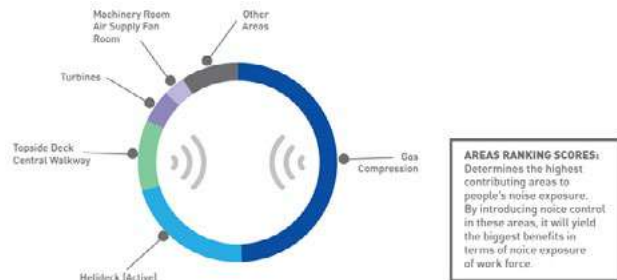
The effectiveness of NEMS is evidenced by its widespread adoption. The large majority of oil and gas assets located onshore and offshore within the UK currently operate Bureau Veritas' NEMS. The client list includes major players in the industry such as BP, Shell, Total, Apache North Sea, and many others across various sectors.

Compliance and Expertise

Bureau Veritas' Acoustics and Vibration team, a specialist division, has extensive experience providing noise management services to the Oil & Gas sector across both UK continental shelf waters and worldwide. Their expertise ensures that NEMS not only calculates exposure levels but also helps clients achieve compliance with the Control of Noise at Work Regulations.

Conclusion

As industries strive to create safer work environments, especially in high-risk sectors, solutions like Bureau Veritas' NEMS play a crucial role. By providing a comprehensive, adaptable, and widely-recognized system for noise management, NEMS helps companies across various industries protect their workforce, comply with regulations, and demonstrate their commitment to occupational health and safety.





JCE Energy



Delivers ATEX-Certified Solar Power Solution

A

berdeen-based JCE Energy has successfully delivered a bespoke modular solar power solution to meet the energy demands of Aker BP's Unmanned Installation (UI) during a period before the UI is connected to permanent power from the host

platform.

The ATEX/IECEx-certified and NORSOK conforming Solar Power Package ensures a reliable, year-round energy supply, exemplifying JCE Energy's dedication to renewable innovation in the oil and gas sector.

The modular solar power package was designed and manufactured to address the specific challenges of offshore operations in the North Sea. Engineered for continuous 24/7 operation, the system withstands extreme conditions, including limited daylight during winter months, while its compact and efficient design allows seamless integration into

the platform's constrained space.

Supporting essential functions such as well monitoring, remote communications, and nav aids, the solar power solution enhances platform safety and replaces traditional diesel generators. This reduces operational costs and emissions and demonstrates the viability of renewable energy in the offshore sector.

To maximise efficiency, the solar panels were strategically arranged along the platform's perimeter, angled to capture optimal sunlight throughout the day. With an innovative over the handrail concept used, this in turn, did not compromise deck space but providing the power required, and ease installation and removal. A compact, pre-assembled container unit, constructed at JCE Energy's Aberdeen facility, houses all essential controllers, PLCs, and batteries. This design facilitated rapid deployment and smooth integration into the platform's infrastructure.

This collaboration reflects JCE Energy's commitment to supporting the



oil and gas industry in decarbonization efforts while maintaining operational reliability.

Marco Gheza, General Manager of JCE Energy, commented:

"Our Solar Power Package represents a pivotal step in proving the viability of renewable energy in some of the most challenging environments. This project not only demonstrates our engineering expertise but also reinforces our commitment to helping the energy sector transition to more sustainable practices."

Rannveig Storebø, Project Director, Valhall PWP-Fenris:

"It has been crucial for the Fenris project to find a solution that can provide temporary power for well monitoring and navaid equipment on Fenris UI (Unmanned Installation) in the standalone phase before permanent power is established from host platform. Here has JCE helped us developing a solar panel-based system which will meet our needs in

this phase of the project with innovative and good solutions."

About JCE Energy

JCE Energy specialises in the design and manufacture of renewable energy systems for hazardous and remote environments. With over 40 years of experience, the company delivers high-performance solar, wind, and hybrid solutions for offshore and industrial applications, driving sustainability and supporting the energy transition.

For more information, visit www.jceenergy.com

About Aker BP

Aker BP is a company engaged in exploration, field development, and production of oil and gas on the Norwegian continental shelf. The company operates six field centres: Alvheim, Ivar Aasen, Skarv, Edvard Grieg, Ula, and Valhall, and is a partner in the Johan Sverdrup field. Measured in production, Aker BP is one of the largest independent oil companies in Europe.

For more information visit <https://akerbp.com>



Rising Standards, Safer Systems: The Growth Trajectory Of The Us Hazardous Area Electrical Equipment Market

The hazardous area electrical equipment market in the United States is experiencing sustained and significant growth, underpinned by a combination of tightening safety regulations, advances in industrial technologies, and a heightened focus on operational reliability in high-risk environments. Valued at USD 4.12 billion in 2022, the market is projected to reach USD 6.78 billion by 2030, growing at a compound annual growth rate (CAGR) of 7.5% from 2024 to 2030.

This robust growth is reflective of a broader industrial shift—one that places safety, efficiency, and compliance at the core of operations, particularly in sectors where explosive atmospheres and flammable materials are routine.

Safety First: Regulatory Pressure and Compliance Culture

The primary catalyst behind the market's expansion lies in the increasingly stringent regulatory landscape. US federal agencies such as OSHA, along with international standards like IECEx and ATEX, are setting the tone for safety requirements in hazardous environments. Industries must comply with these standards not only to protect workers and assets but also to avoid significant legal and financial

penalties.

Electrical equipment used in these zones—ranging from flameproof enclosures and explosion-proof lighting to intrinsically safe control systems and certified cabling solutions—must now undergo rigorous testing and certification processes. As the cost of non-compliance rises, so does the demand for equipment that meets or exceeds these standards.

Technological Innovation and Industrial Transformation

Technology is playing a pivotal role in reshaping what is possible in hazardous environments. Among the most notable innovations is the integration of high-speed 100 Gigabit Fiber Optic Transceivers into explosion-prone zones. These devices offer low-latency, high-bandwidth communication in conditions where electrical interference is common and reliability is non-negotiable.

Additionally, the adoption of wireless systems and Industrial Internet of Things (IIoT) solutions is transforming the landscape. These technologies enable real-time monitoring, predictive maintenance, and remote diagnostics, thereby minimizing downtime and enhancing safety outcomes.

installations—such as biogas plants and hydrogen production sites—are also emerging as new markets for hazardous-rated electrical components.

Customization and System-Level Solutions

Another defining trend is the increasing demand for tailored, application-specific equipment. No two hazardous environments are identical, and manufacturers are responding with modular product lines and custom-engineered systems designed to meet highly specific operational and environmental criteria.

This shift is encouraging the development of integrated safety systems that combine explosion protection with automation, diagnostics, and smart control functionalities. It's not just about supplying a safe product—manufacturers are now expected to deliver performance-optimized, plug-and-play solutions that align with the end user's operational strategy.

The Road Ahead: Investment, Efficiency, and Sustainability

Looking ahead, the US hazardous area electrical equipment market is poised for sustained long-term growth, driven by ongoing investments in infrastructure, energy, and industrial digitalization.

Manufacturers are placing greater emphasis on:

Energy-efficient designs to support corporate sustainability goals.

Materials innovation to extend product lifecycles in harsh environments.

Remote configurability and diagnostics, reducing the need for on-site interventions.

Furthermore, as cybersecurity concerns rise in tandem with digital adoption, expect to see a growing focus on secure communication protocols within hazardous area networks.

Conclusion

The hazardous area electrical equipment sector in the United States is evolving rapidly to meet the dual demands of stringent safety compliance and operational innovation. From the oil field to the pharmaceutical cleanroom, reliable and compliant electrical systems are now seen not just as a regulatory necessity, but as a cornerstone of strategic asset management and risk mitigation.

As industries navigate complex safety landscapes and increasingly interconnected operations, investment in advanced hazardous area equipment will continue to be a critical enabler of safe, smart, and sustainable industrial performance.

Where once only hard-wired systems were considered viable, today's wireless technologies—now engineered for hazardous classifications—are providing new levels of flexibility and cost-efficiency, especially in sprawling oil fields, offshore rigs, and chemical processing plants.

Sectoral Demand: Oil, Gas, and Beyond

While the oil and gas industry remains the dominant consumer of hazardous area electrical equipment, other sectors are increasingly driving demand. These include:

Chemical and petrochemical plants requiring precise control systems and intrinsically safe instrumentation.

Mining operations, where rugged, explosion-proof systems are vital due to the constant presence of combustible dust.

Food and beverage processing, particularly facilities handling powdered ingredients or flammable cleaning agents.

Pharmaceutical production, which relies on controlled environments and often volatile compounds.

With energy transition initiatives gaining ground, renewable energy



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EXPLOSION PREVENTIVE DEVICES



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Level Meter



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