



THE STRONGEST LINK.



**POWERFUL. FLEXIBLE.
ROBUST.**

The ultimate Ex UPS Systems for hazardous areas

OUTSTANDING RELIABILITY

EMPOWERING OIL AND GAS OPERATIONS WITH RELIABLE, UNINTERRUPTIBLE POWER

In the oil and gas sector, where operations are relentless, the environment unforgiving, and the demand for monitoring and control ever-growing, the continuity of power is not just a convenience – it's a necessity. R. STAHL specializes in providing uninterruptible power supplies (UPS) that are the lifeline for these critical infrastructures.

DECADES OF SAFETY IN HAZARDOUS AREAS

With over 80 years of expertise in explosion protection, R. STAHL is synonymous with safety in hazardous areas. Our expertise in integrating complex solutions is reflected in our cutting-edge UPS systems, designed specifically for the harsh environments across all sectors in the oil and gas industry.

The quest for energy takes us to the world's most remote and unmanned locations, often prone to explosive atmospheres. Here, reliable power is not just about efficiency – it's about resilience. R. STAHL's UPS systems are the silent guardians that ensure uninterrupted operations, even amidst the harshest power outages, safeguarding both human lives and the delicate offshore ecosystem.

PLUG & PLAY DESIGN

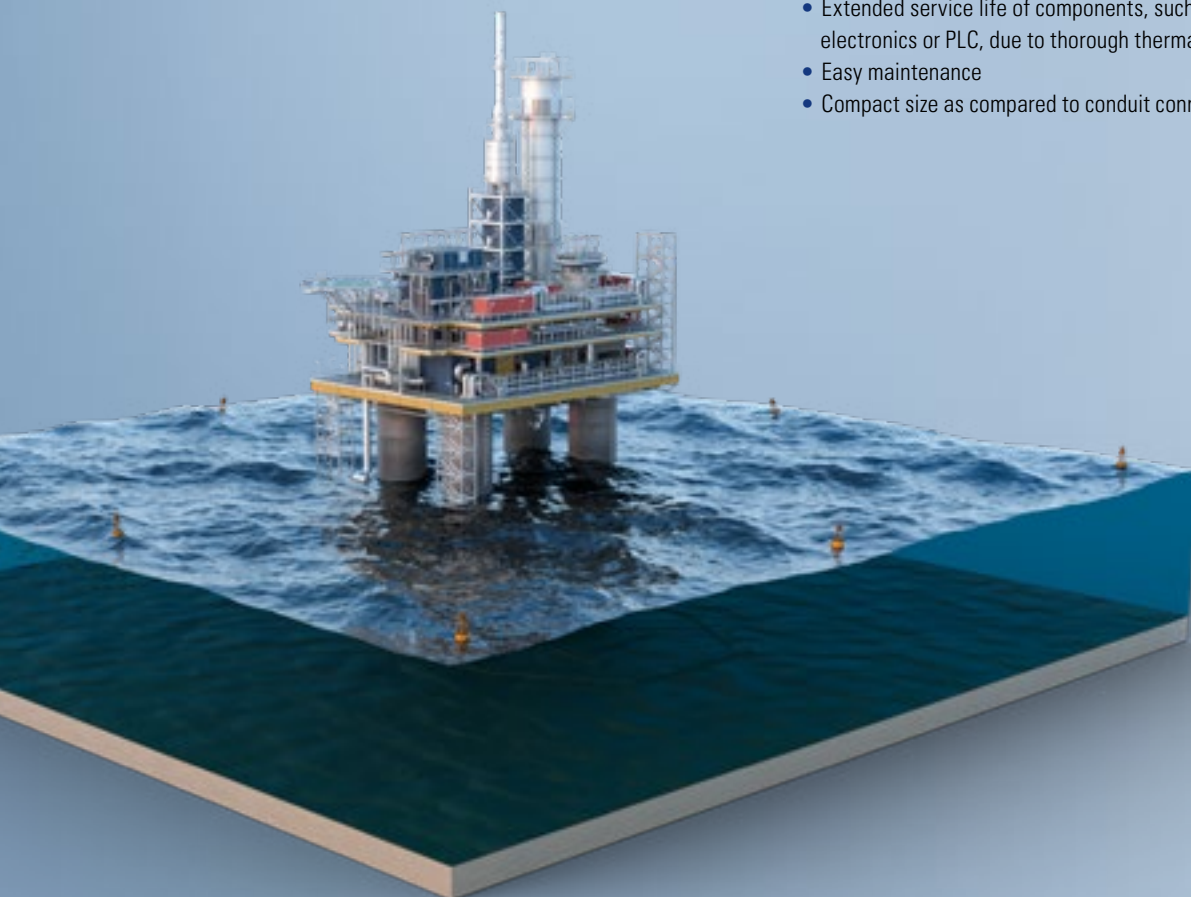
R. STAHL's multi-enclosure UPS system is engineered for critical applications in hazardous environments, ensuring peak system availability. Tailored to meet specific needs, our solutions provide a reliable power supply, safeguarding equipment and minimizing expensive downtime. Even during extended power disruptions, our systems facilitate a smooth, controlled operation.

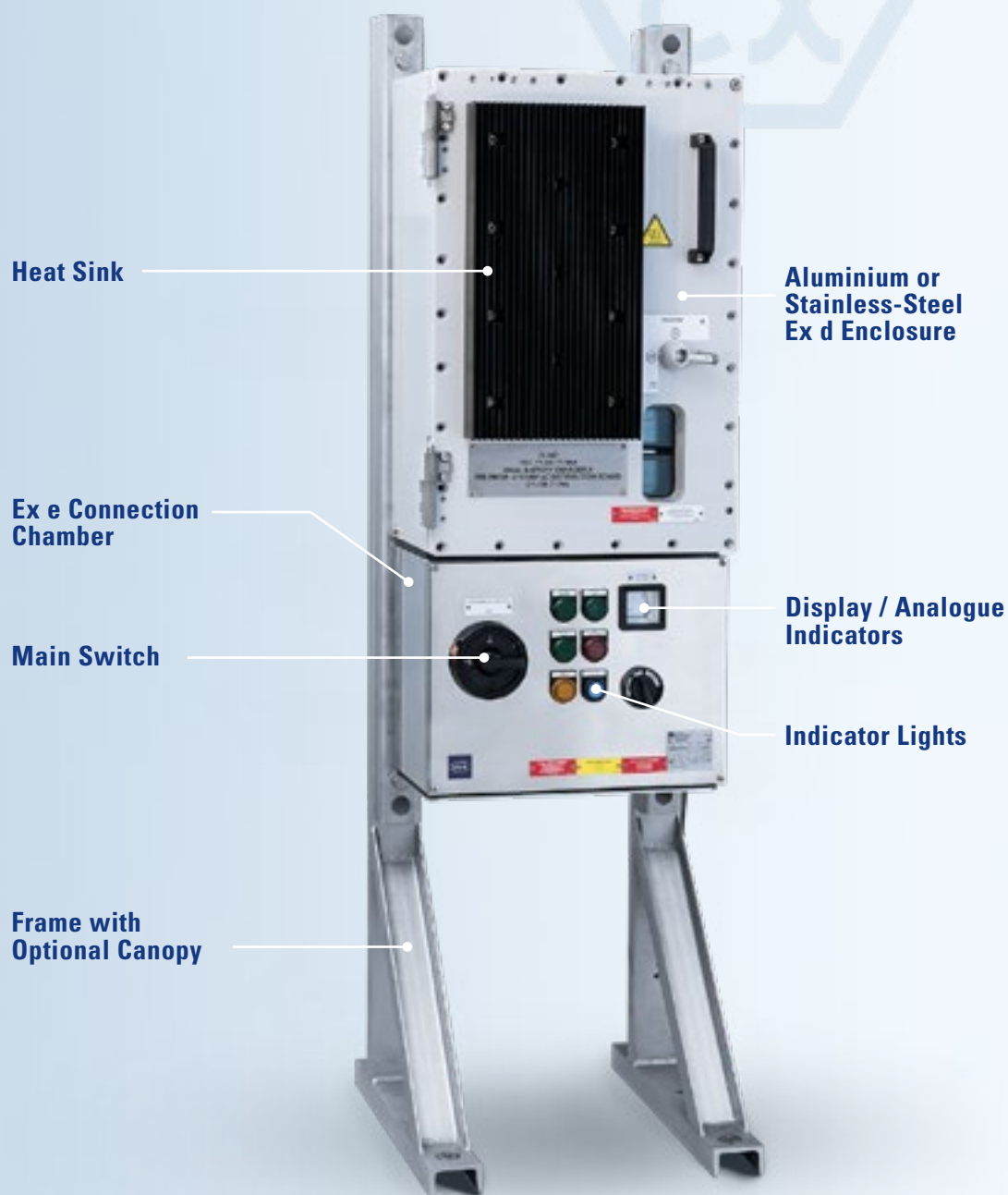
The integrated design also offers plug-and-play functionality, ensuring ease of use and quick installation. The configuration and installation on one frame provides easy and quick access for connecting incoming and outgoing cables to the Ex e connection chamber. Our UPS is fully interconnected and factory assembled, eliminating the need for interconnection between different system components at the site.

MAIN ADVANTAGES

R. STAHL's UPS systems showcase an exclusive multi-enclosure design, combining multiple Ex d and Ex e enclosures connected via certified cable bushings, all mounted on a single frame. This allows:

- An easy isolation of partial enclosures for maintenance
- Discrete enclosure-to-function assignment
- Extended service life of components, such as the power electronics or PLC, due to thorough thermal evaluation
- Easy maintenance
- Compact size as compared to conduit connection





Heat Sink

Aluminium or
Stainless-Steel
Ex d Enclosure

Ex e Connection
Chamber

Display / Analogue
Indicators

Main Switch

Indicator Lights

Frame with
Optional Canopy

COMPACT UPS

Whether it's for powering up remote skids or ensuring the operational integrity of PLC systems on drilling platforms, our compact UPS solutions are engineered to perform in the most demanding conditions.

MAIN FEATURES

- Power range AC UPS up to 3.000 VA / DC UPS up to 4.000 W
- Both offline and online AC UPS
- Temperature-guided battery charging
- Available as non-redundant, partly and fully redundant systems
- Available in monoblock or modular design

TYPICAL APPLICATIONS

- Remote skids
- Wellhead controls
- Valve operation
- Pipeline monitoring
- Flare stack controllers
- Helideck application

BENEFITS

The maintenance-free UPS is simple to install and can provide a backup power for up to 2 hours, depending on the load and the battery capacity. The UPS is available for varied requirements.

UNMANNED OPERATION

MOST FLEXIBLE EX POWER UPS SOLUTION IN THE MARKET

The Ex power UPS system is custom-made for critical applications in remote hazardous environments, ensuring maximum system availability. It provides reliable power and minimizes downtime. Even in locations with extended power disruptions, our UPS ensures smooth and uninterrupted operation of critical loads. Our power UPS systems are designed with advanced power electronic components which can deliver optimal performance at ambient temperatures up to +60 °C. This is achieved through specially designed IGBTs and SCRs, integrated with our innovative cold-plate design, allowing heat to dissipate naturally and extending the system's lifespan.

The multi-enclosure design with combination of Ex d and Ex e enclosures ensures clear enclosure-to-function assignment, facilitating easy maintenance with partial uninterrupted isolation. It also helps to separate critical electronics like the controllers to increase the lifespan of the complete system. This feature, combined with the plug-and-play design, allows for easy installation and hassle-free commissioning. Further, the Ex e connection chambers make the system versatile for the site conditions and future modifications, making it the most flexible solution in the market.



R. STAHL SOFTWARE

- Clear system overview
- Built-in alarm manager and logger
- Graphical representation of system parameters
- Enhanced battery monitoring; calculates SoC, SoH, etc.
- Displays relevant system values
- Activate and control of functions, e.g. boost charge or full battery discharge
- Different user levels, e.g. operator/admin to modify system parameters
- Interfaces: protocols (Modbus TCP/RTU, OPC-UA, IEC 61850) and potential free contacts

01 PLUG & PLAY DESIGN



Power Electronics

Ex d enclosure with cold-plate technology

Various outputs:

- 24, 48, 110 V DC, 50 kW
 - 230 V / 415 V AC, 30 kVA
- IGBT and SCR

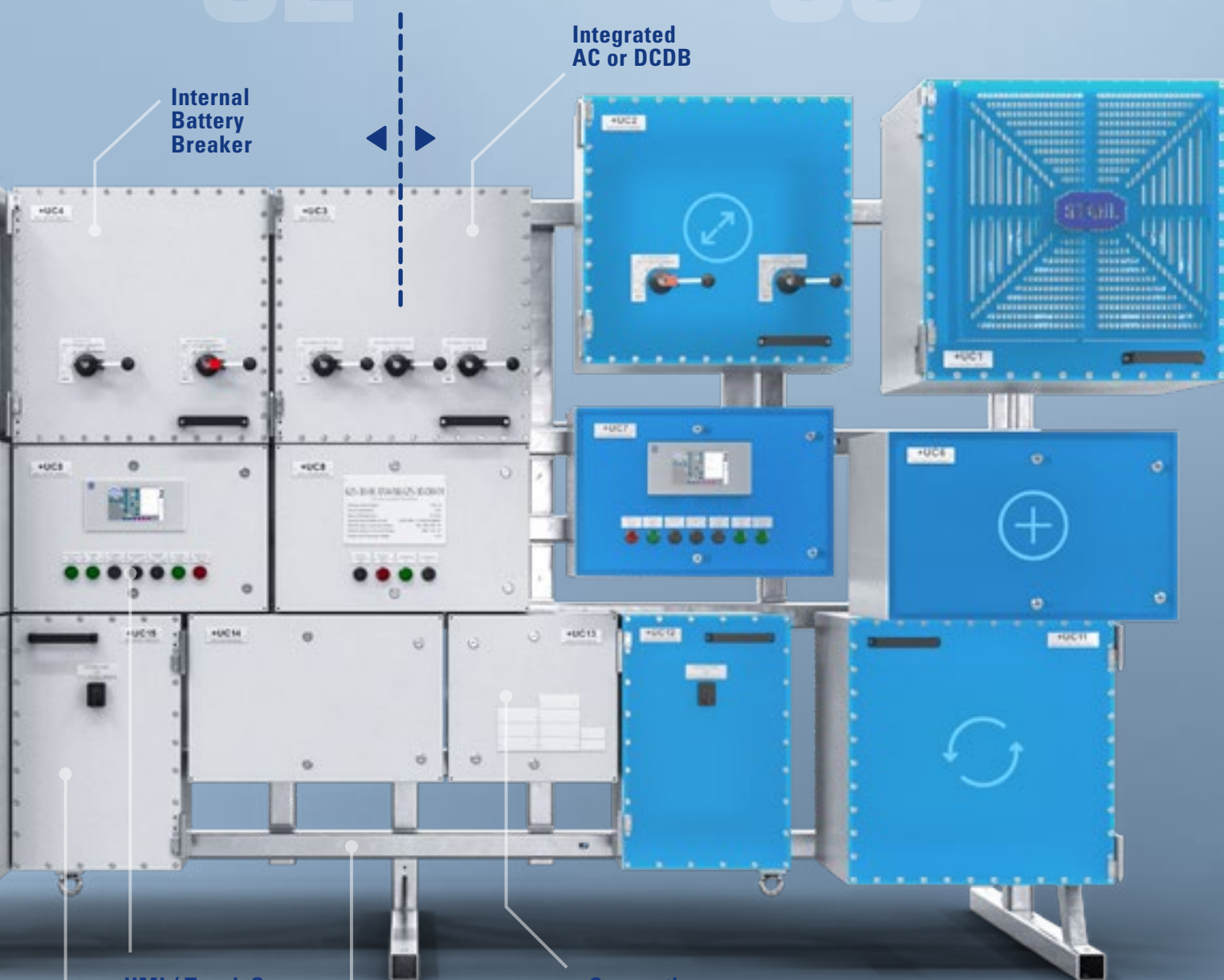
Incoming Isolation Transformer



Incoming Breaker

02 VARIOUS TOPOLOGIES

03 HIGHLY FLEXIBLE



HMI / Touch Screen

- Operating temperature up to +65 °C
- Sunlight readable
- Operable while wearing gloves

Frame

Connection Chamber

DESIGN CRITERIA

UPS FOR EVERY APPLICATION

At R. STAHL, we understand that every offshore operation has unique power needs. That's why we offer UPS systems that are customizable to a range of design criteria, ensuring you get a solution tailored to your exact requirements. Whether it's the buffer time needed to switch to backup power, the voltage and power levels to support your operations, or the load capacity, we engineer systems that meet your specifications.

Our designs also consider the Ex-rating for explosive environments, the ageing factor for long-term reliability, the design factor for operational excellence, the IP rating for ingress protection, and the optimal minimum and maximum temperature ranges for performance in harsh conditions.



Buffer time:	The longer the buffer time, the larger the battery and the charger system.
Voltage:	Design depends on input and output voltage requirements (AC/DC).
Load:	The higher the load, the higher the output from charger and battery.
Ex-rating:	Product selection based on zone classification, gas group and temperature class.
Ageing factor:	Varies based on type of battery (NiCd, VRLA, vented battery) with corresponding deration.
Design margin:	A safety factor on critical components, assigned while sizing the system to achieve a longer lifespan.
IP rating:	Designed based on the ambient conditions and effect of dust and water on the system.
Min. temp.:	Influences the size of the battery due to negative thermal effect on the electrolyte.
Max. temp.:	Critical for precise selection of electronic components and its corresponding deration.

BENEFITS

OF R. STAHL UPS SOLUTIONS



100% PROCESS SAFETY

Safety in explosion-protected areas (Zone 1 and Zone 2)



PLUG & PLAY INTEGRATED DESIGN

Maximum flexibility
Simplified installation
Minimum touch time



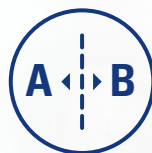
RELIABILITY

Reliable battery backup



EXTREME CONDITIONS

Solutions for the most extreme environmental conditions (i.e. heat, cold, humidity, or marine atmosphere)



REDUNDANCE

Available as non-redundant, partly and fully redundant solutions



R. STAHL UPS SYSTEMS IN A NUTSHELL

Our systems are used in a wide range of industries in various applications, be it the harsh offshore or onshore oil and gas plants, marine sectors or the pharmaceutical industry. All standard components are designed to the highest standards of robustness and versatile functionality ensuring exceptional reliability. As a result, R. STAHL solutions have been successfully deployed in various applications across multiple projects worldwide.






FIND MORE INFORMATION ABOUT
R. STAHL'S POWER UPS
HERE:



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