

The logo for 'orga' is displayed in a bold, blue, lowercase sans-serif font. It is positioned on a bright yellow rectangular background that is part of a larger yellow vertical bar on the left side of the image. The background of the entire image is a photograph of a solar farm on a body of water, featuring a long yellow metal walkway with white railings leading between rows of solar panels under a blue sky with scattered white clouds.

orga

The way ahead in Power solutions

ATEX & IECEX COMPLIANT POWER SOLUTIONS

When safety matters most you can trust in Orga.

With over 45 years of experience in the offshore market, Orga delivers high quality and efficient solutions to power critical equipment in harsh environments. Our explosion proof specialists, together with our power expertise and our in-house R&D department keeps us at the forefront of emerging technologies. That is why Orga guarantees that your system always keeps running safely with our ex-certified power solutions.

Processes in hazardous area need power to operate safely. A power outage means cost impact and potential hazards. Orga's explosion proof power solutions provide continuous and reliable power. Even in worst-case scenarios, Orga's power solutions provide a safe, calculated power back-up. Due to the modular set-up and design, the systems require minimal maintenance.

This makes our power solutions perfectly suitable for unmanned remote locations. For example Unmanned Wellhead Platforms (UWHP) or Calm Bouys and onshore oil and gas applications.



Safe, reliable and cost-effective power solutions.



Over 45 years of experience in the offshore market.

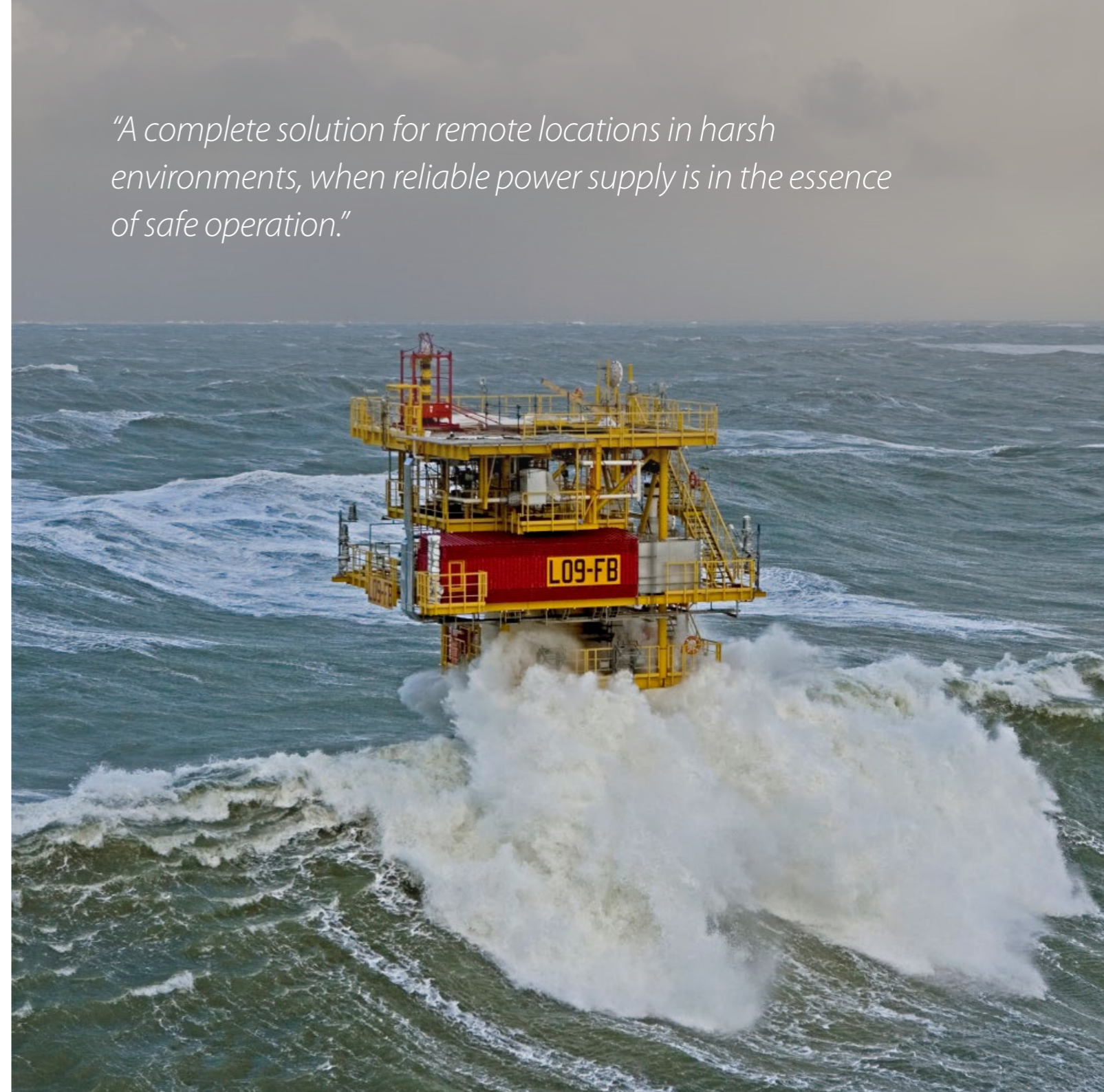


Full compliance with regulations. (ATEX, IECEx etc.)



High quality products. Easy to install, maintain and repair.

"A complete solution for remote locations in harsh environments, when reliable power supply is in the essence of safe operation."



Continuous power supply, with Orga's reliable UPS solutions.

Running a safe operation on unmanned and remote offshore locations is a complex task, especially in hazardous areas. Orga helps you with these difficulties by offering reliable explosion proof Uninterruptible Power Supply (UPS), which will keep your critical systems running.

The UPS system is provided for a specified amount of time, to continue safe operation, monitoring, control and to prevent shutdown in case of a main power outage. During normal operations the battery charger of the UPS system powers the load and at the same time charges the batteries. In case of a mains power outage, the batteries feed the loads for a specified autonomy time. The type and size of the batteries are determined by the load profile and in accordance with standards and specifications.

When the main power is returned, the battery charger keeps feeding the load and recharges the batteries at the same time. This ensures that the situation is back as normal as quickly as possible.

The modular setup for flexible N+1 or dual/triple redundant system configurations increases availability.



Custom designed to your needs.



Higher efficiency, smaller footprint, less power usage.

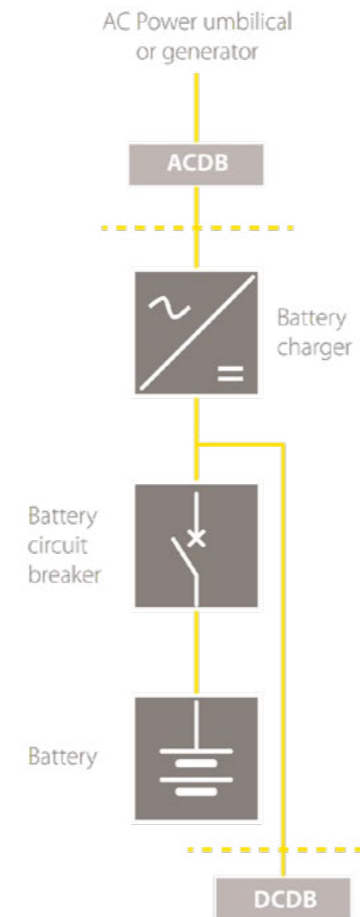


Suitable for hazardous areas zone 1 and 2.



Remote and local monitoring.

Explosion proof DC UPS system (1x100%)



Explosion proof DC UPS system (redundant)

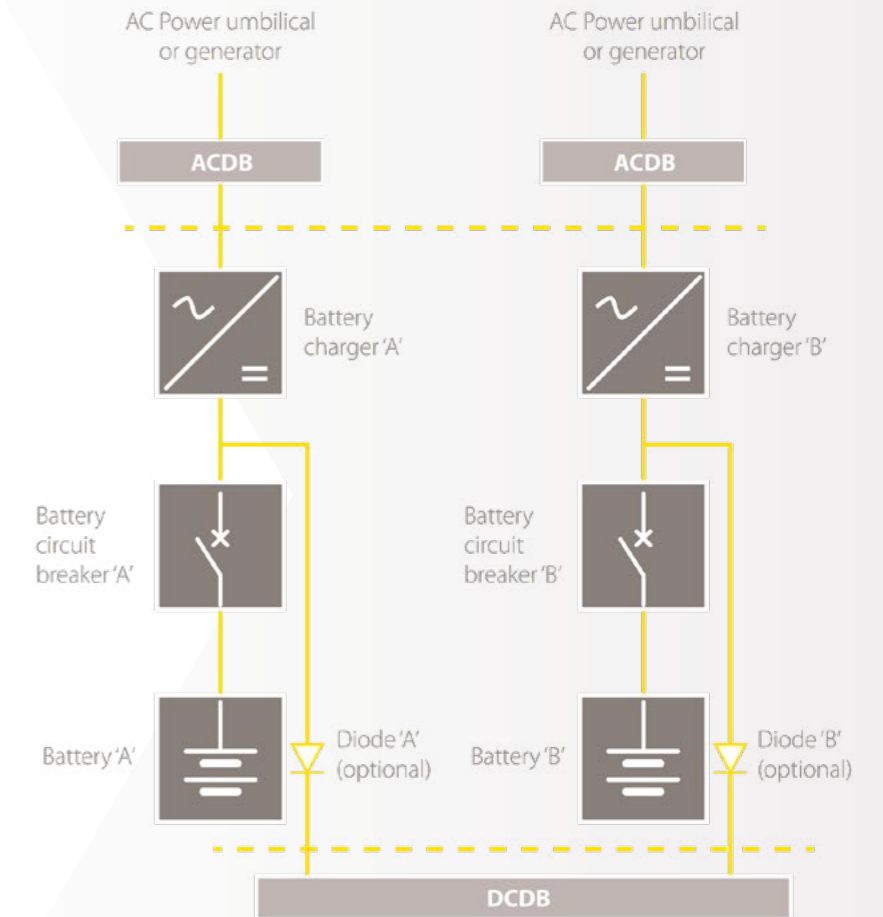


Diagram 1: Typical system configurations

Explosion proof battery enclosure

Orga's Battery enclosure is a certified combination of batteries in an Ex-e certified enclosure designed for ventilated indoor as well as outdoor installation. The enclosure provides explosion proof protection for the built-in high quality batteries. It can incorporate different types of batteries such as Nickel Cadmium (NiCad) and Valve Regulated Lead Acid (VRLA) specially designed for solar, backup (UPS) and starter applications.

The Battery Enclosure is naturally ventilated while still protecting the batteries from the environment. It has proven itself as a highly reliable combination for offshore environment. Several sizes are available to fit every type and size of battery.



- **Backup power to the critical loads**
- **Solar, UPS or starter batteries**
- **Batteries protected from harsh environment**

Explosion proof battery charger

A space efficient natural cooled high-tech modular battery charger system with optimized electrical performance and no maintenance by design that includes galvanic isolation between input and output.

Electrical performance shows best in class THD and wide nominal input voltage range (380-440Vac) due to the state of the art high efficiency switch mode power supply (SMPS) proven technology.

The Ex battery charger assures safe and efficient charging of batteries and is designed for reliable operation in extreme harsh environment and ATEX/IECEx certified for hazardous area zone 1. The Ex certified touchscreen interface, with MIMIC panel, provides comprehensive measurement, indication and fault monitoring information on battery charger and battery.



- **Highest power density/smallest footprint**
- **Modularity for increased availability**
- **Natural cooling design optimizes reliability**

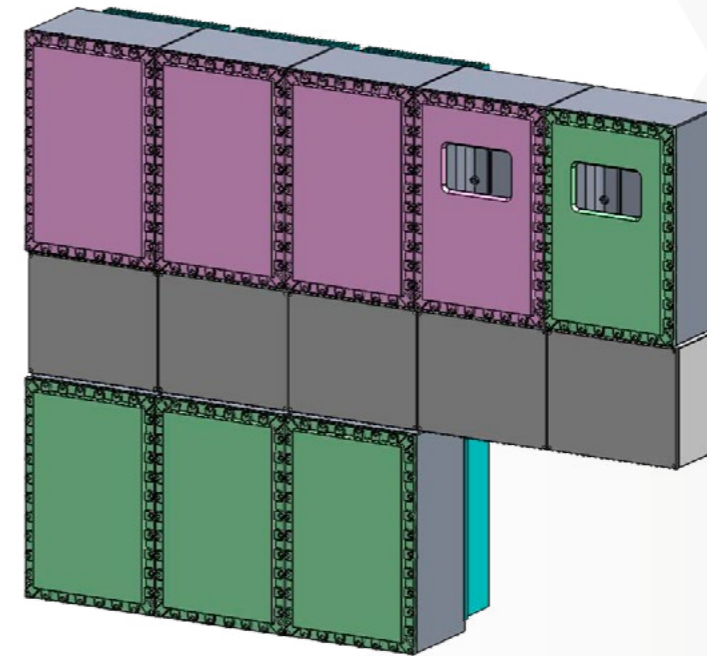


Explosion proof battery circuit breaker box

A Battery Circuit Breaker is an automatically operated electrical switch designed to protect the battery circuit (cable) from damage caused by excess current from an overload or short circuit. Its basic function is to interrupt current flow after a fault is detected. Unlike a fuse, which operates once and then must be replaced, a circuit breaker can be reset (either manually or automatically) to resume normal operation when fault is cleared.

The breaker can also be used as manual switch in case of maintenance, or can be tripped from remote in case of ESD. Several customizable options are available to meet your specific needs.

- **Over current and short circuit protection**
- **Ex-d certified enclosure**
- **Battery disconnect facility for maintenance**



Drawing 1: Typical modular dual redundant battery charger

Explosion proof solar charge controller

The solar charge controller assures safe and efficient charging of the batteries. Power from the solar panels is converted by the MPPT (Maximum Power Point Tracking) or controlled by the PWM (Pulse Width Modulation) charger to achieve efficient charging of the batteries. The system and cables are protected with circuit breakers and surge protection devices. With voltage/current measurement and earth leakage monitoring the full system is controlled to assure continues power.

The system is available for a nominal system voltage of 12, 24 or 48 VDC, and multiple regulators can be operated in parallel to meet the projects technical requirements. The ability of the MPPT regulator to step-down from a high voltage solar array to low voltage batteries maximizes the power generated by the system and is a cost effective design advantage.



- **EX zone 1,2 certified**
- **MPPT or PWM charging techniques**
- **Suitable for indoor and outdoor offshore operation**



Explosion proof solar panel

Orga's Solar Panel is designed to survive in hazardous areas and demanding offshore environments. The panel is suitable for areas with gas explosion hazard. Its design protects the solar cells from the detrimental effects of the aggressive environments. The panel consists of the most rugged solar cells on the market (Sunpower Maxeon Technology) embedded in 2x4mm glass, mounted in a high anodized aluminium frame work.

- **High efficiency solar cells to minimize space requirements.**
- **EX zone 1,2 certified PV module**
- **Suitable for offshore environmental conditions**

Optional non-metallic cover to protect the Solar Panel during installation, commissioning and drilling against dirt and falling objects.



Power solutions

To ensure your asset never runs out of power



A custom solar power system, for efficient and reliable power.

Our Solar Power System keeps your offshore and/or unmanned asset running. Specifically engineered to your needs, this system makes sure you will always have power, even during any kind of outage, like a UPS, but powered by solar.

Due to the solar regulator, the critical load is continuously being powered during daytime. Next to that the solar regulator also recharges the batteries of the solar power system. During determining the battery autonomy we take into account the data of no sun and the night-time. During these stages there might occur a below average of solar radiation. The fully charged solar batteries inside our explosion proof certified battery box will continue safe operation, monitoring and control.

During the engineering process, we calculate the exact number of solar panels that is necessary, so that there is always enough sufficient power available to recharge the batteries. Even in the period with the lowest solar radiation. This will keep the asset safe and in compliance with (inter)national regulations.



Equipped with high efficient solar cells.



Charge with MPPT or PWM solar charge regulators.

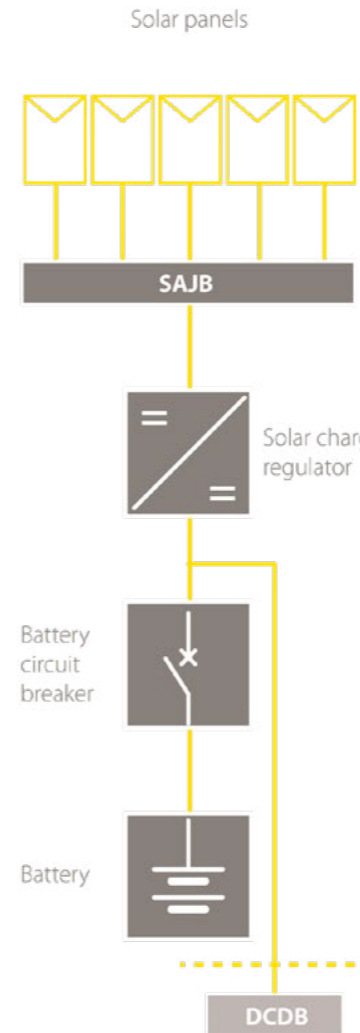


Remote and local monitoring.



Suitable for hazardous areas zone 1 and 2.

Explosion proof Solar Power System (1x100%)



Explosion proof Solar Power System (redundant)

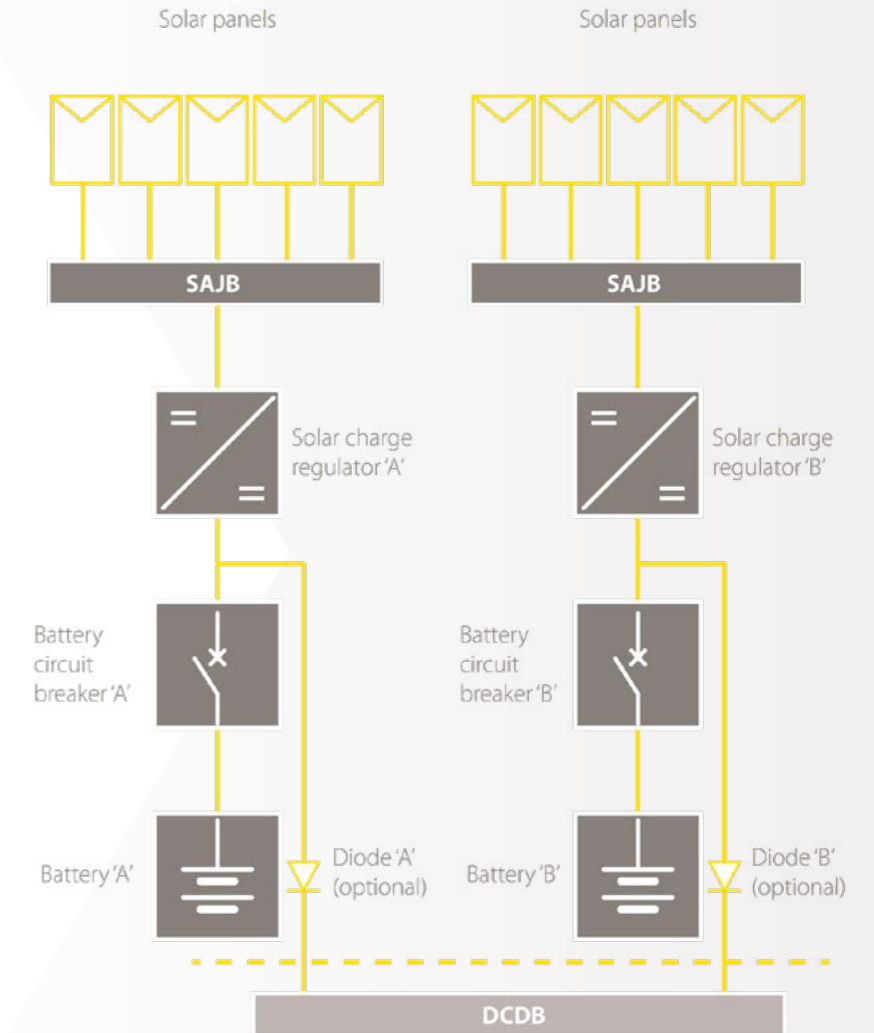


Diagram 2: Typical system configurations

Why make business complicated when the solution is just one call away?

Stringent regulations are always part of working in hazardous environments. Because of our long experience in the offshore field, we have in-depth knowledge of worldwide regulations, such as ATEX, IECEx and other (inter)national requirements.

Orga's power solutions are built in accordance with the system sizing calculation and based on client requirements. Our solutions can be monitored remotely which makes them perfect for unmanned locations and will keep the OPEX costs low.

If you do prefer more assistance, our dedicated team of service engineers is happy to serve you. Each engineer is trained, experienced and has full accreditation to provide commissioning and maintenance of your system.

Over 45 years of experience in the offshore industry.

Since 1973, Orga has been delivering high quality and efficient solutions for offshore platforms, to contribute to the safety of people, assets and the environment.

**For reliable powering of your equipment, call us:
+31 (0)10 208 5555**



High reliability, remote monitoring, autonomous power supply.



Design, production, quality control & commissioning.



100% regulatory compliance guaranteed worldwide.



Low maintenance (delivers operational savings).





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