orga®
Aviation

Smart obstruction light solutions

Orga

Orga is a world leader with more than 40 years of experience in developing and manufacturing state-of-the-art explosion proof solutions, obstacle warning lights, helideck lighting, radar response beacons (racon), marine lanterns, foghorns, fog detectors and many other navigational aids and solar power supply systems for customers in the offshore, aviation and petrochemical industries worldwide.

Dedicated staff deliver effective and reliable solutions that help our customers understand and meet safety regulations and stakeholder requirements.

"Our customers value Orga as a trustworthy and experienced partner. We are proud of our reputation."

Operational safety underpins the onshore, offshore and aviation industries' licences to operate. Up-to-date explosion proof equipment that meets the relevant operational needs and safety regulations are vitally important to maintaining these licences.

The future will bring even more stringent regulations. Orga can help you meet the challenges and has three business groups that fully understand safety and operational requirements:

- Orga Aviation provides smart aviation obstruction lighting systems.
- Orga Offshore provides customised navigational aid and helideck lighting solutions for the oil and gas industry, as well as risk free power to remote locations using renewable technologies such as photovoltaic and wind.
- Orga X-proof offers consultancy on the custom design, certification and manufacture of explosion proof products.

As our customers operate in many different countries, we are familiar with the latest international and national regulations and safety standards. We have locally-based support teams and work with international partners to deliver the right solutions and services to our customers around the world.

It is our strategy to continually build on our experience and know-how and to develop, with our customers and the regulatory authorities, cost-effective and flexible solutions that enhance safety levels at sea, onshore and in the air.

The wider organisation

Orga's three business groups each have marketing, sales and technical resources to support the needs of their different customers, market applications and product portfolios. Each business group focuses on the requirements, trends, culture and customs of a particular market and takes a close interest in the practical requirements for products and the needs of their system installers and end users. They have support from our research and development, marketing, sales, consultancy, production, quality control, service and logistics teams.

At Orga, we manufacture a wide range of standard products, but also have engineers and production specialists who focus on custom-made products and systems. The philosophy of our in-house product manufacturing is to deliver high-quality products, on time and first time right.

Our production area and our facilities cover more than 4000 m^2. We have a flexible and lean production workflow to maximise production rates and use Kanban concepts to ensure continuity of materials supply and provide excellent responsiveness and product availability.

The clean, modern and energy-efficient environment of our logistics department incorporates materials, production, finished goods and dispatch.

Efficient management of stock levels, production and resources is ensured through our up-to-date enterprise resource planning system and long term agreements with suppliers of key materials.

We are situated close to major roads, airports (Amsterdam-Schiphol airport and Rotterdam-The Hague Airport) and sea freight (Port of Rotterdam) terminals, which enables us to offer freight-on-board and full international delivery services.

"At Orga, we value trust and customer loyalty. We respond quickly to customer requests and deliver what we promise on time."

Orga Aviation

Orga Aviation designs and manufactures smart aviation obstruction marking solutions for wind turbines, telecommunication and broadcasting towers, electricity transmission towers, chimneys, buildings, bridges and other high-rise structures. Our systems are recognised as being state-of-the-art, reliable, energy saving and operationally cost-effective.

We work closely with our customers to continually develop complete solutions using latest technologies. We understand that stakeholders in our market require reliable, long-life products that survive the harsh environmental conditions they will be exposed to and balance these requirements with the need to meet regulatory requirements and ensure safe operation.

When training and on-site support services are required, we have factory-based engineers available to provide installation, commissioning and troubleshooting support. Orga works with regulatory bodies around the world and provides systems that comply with national regulations and those of the International Civil Aviation Organization (ICAO), local civil aviation authorities and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA).

Orga Aviation obstruction lights are designed to operate as stand-alone or as part of a complex system combining high, medium and/or low intensity lights.

Based upon customer requirements Orga can support a complete system with additional products including visibility sensors and battery back up.

Commitment to customers
Orga is committed to designing and manufacturing precision-engineered aviation obstruction lighting systems to lower total costs of ownership.

"Orga innovative aviation obstruction marking solutions are at the forefront of design and technology – helping our customers to meet future challenges."

On selecting an Orga obstruction light, customers will benefit from a range of features including integrated power supply, highly accurate light beam for minimal visual impact, integrated system interface controller and GPS module for automatic flash synchronisation between lights.

All Orga obstruction lighting solutions are designed for low power consumption, long life and maintenance-free operation and include simple cable connection for easy installation.

Smart obstruction light solutions

Orga Aviation's innovative high, medium and low intensity obstruction lighting solutions are used all around the world to make tall structures more visible to passing aircraft during both day and night-time for collision advoidance.

With a firm focus on safety, Orga's market-driven aviation obstruction lighting systems for wind farms worldwide bring together a host of innovative features including advanced LED, optical, power and system control technologies to meet the challenges of the most demanding applications.

The obstruction lights are built in a rugged housing unit specifically designed for onshore and offshore hostile conditions. In addition to the industry standard test and certification programmes, Orga Aviation's LED products have successfully passed lightning simulation and EMC compliance tests.

Latest aviation obstruction light solutions
Orga's broad pioneering range of aviation obstruction lighting now includes:

Orga L500 high intensity LED obstruction light. Features integrated photocell, solid state power supply, monitoring, automatic flash synchronisation between lights and temperature controlled internal heater to prevent external ice build-up. Also available with infrared light output.

Orga L550 medium intensity LED obstruction light. A unique obstruction lighting solution in one smaller unit, 50% lighter than Orga's highly successful L450 series. Built-in intelligence based on the latest LED technology maximises intensity and colour output and facilitates automatic flash synchronisation between lights while prism optics reduce light pollution. Infrared option available.

Orga low intensity LED obstruction light. Providing intermediate level marking for wind turbine towers. These low intensity lights are easily mountable.

Orga CIP400 Control Panel. Comes complete with Ethernet connection and enables improved communication with and between all Orga obstruction marking products for enhanced system control and monitoring capabilities.

Orga MLC400 Control Panel. Supports Orga obstruction light system installations including intermediate low intensity lights.

Orga Helihoist Light. Designed in collaboration with the UK CAA, the Orga helihoist light is a green light and facilitates safe helicopter hoist operations to UK offshore wind turbine platforms.

Ancillary equipment
Battery back-up systems, visibility sensor systems, controllers with advanced communication interfaces are available to complement your Orga aviation obstruction lighting system. The L500 and L550 series are compatible with all current aircraft detection input tracking technologies allowing automatic light operation only when aircraft are in the immediate vicinity of the hazard.

Military requirements
Orga has worked in close cooperation with national military flying agencies to design and develop infrared aviation obstruction lights for viewing with night vision aids. The L500 and L550 have optional infrared capabilities.

"Ethernet connection enables us to improve the communication with and between all Orga obstruction marking products. This enhance the system control and monitoring capabilities."

Together with our respected customers, Orga contributes to a safer world and work environment. We value long-term partnerships with ourcustomers and our projects, involving a high level of customer interaction, have produced various solutions. A selection of these solutions can be found on this page.

L500
High Intensity LED obstruction light

- **Built-in photocell, power supply, flash-sync and monitoring**
- **Infrared night vision output**

The Orga L500 series provides white flashing or white and red steady or white and red flashing LED obstruction lights for reliable day, twilight and night-time marking of wind turbines taller than 150m.

Depending on model, compliant with minimum requirements of ICAO High Intensity Type B and Medium Intensity Type B/ C obstacle light, and various national standards.

The L500 light series features integrated photocell, solid state power supply, monitoring, automatic flash synchronisation between lights and temperature controlled internal heater to prevent external ice build-up. Orga proprietary optical design produces highly accurate uniform light beam for minimal local visual impact. Firmware can be upgraded in situ with new operating parameters.

L550
Medium intensity LED obstruction light

- **50% lighter than L450 model**
- **Prism optics reduces light pollution**
- **IR-prepared**

The Orga L550 is typically used to mark tall structures between 45–150m high and complies with minimum requirements of ICAO Annex 14 – Sixth Edition, Nov.2013 Medium Intensity Type A/B/C obstacle light, FAA, German CAA and various other national regulations.

Providing day-time white flashing and night-time white flashing or red flashing/steady light and optional IR for flying under Night Vision Goggles (NVG) in one unit, Orga's new microprocessor-controlled obstruction light boasts an integrated design with built-in photocell, power supply, integrated automatic flash synchronisation and monitoring.

Smart LED technology maximises intensity and colour output while the precision-engineered optical design ensures tightly focused beam spread to limit ground scatter and minimise light pollution.

L85
Low intensity LED obstruction light

- **Available from 10 to 200 cd**
- **ICAO compliant**
- **Offshore and onshore applicable**

The Orga L85 red steady aeronautical obstruction light is used for intermediate and top level marking of wind turbines. The light complies with minimum requirements of ICAO Annex 14 – Sixth edition Nov. 2013, low intensity type A/B obstacle light, as well as German and other national regulations.

The design is based on low power long life LED technology and use of stainless steel.

SWS-200
Visibility sensor

Works with Orga CIP controller to adjust intensity of Orga obstruction lights
Selectable measurement range 2km–50km
Compact and robust design

The Orga SWS-200 single gland weather and visibility sensor is optimised for use with Orga obstruction light systems where adjustable light intensity control in accordance with present visibility conditions is required.

The sensor measures visibility (MOR – Meteoroidal Optical Range), fog, haze, smoke, sand, drizzle, rain, snow and general precipitation giving instantaneous and averaged visibility outputs.

For ultimate visibility performance the visual range extends to 50km.

Use for single installation or multiple sensor networks for wind turbine sites.

CIP400
Obstruction light system controller

- **Connect up to 90 obstruction lights**
- **Status monitoring, alarm, system control and diagnostics interface**

The Orga CIP 400 controller comes complete with Ethernet port and enables improved communication with and between all Orga obstruction marking products through a webserver interface. Easy to connect to your own communication system. No maintenance required over service life.

Compliant with ICAO Annex 14 – Sixth Edition, Nov. 2013, FAA and various national approvals (for obstruction light systems including CIP400 controller). Use to control Orga obstruction light systems and as system synchroniser for multiple lights.

MLC400
Marker light controller

- **Connect up to 8 low intensity lights**
- **Orga StrobelineTM cable wiring system**

The Orga MLC 400 is a compact low intensity light control and monitoring device. Connect up to 8 compatible low intensity lights.

Use in Orga obstruction light systems with low/medium/high intensity obstruction lights with Orga CIP400 controller for day / night control and when required to flash the low intensity lights

Battery backup system

- **Uninterruptible power supply**
- **Rugged and compact design**
- **Easy to operate**

Orga battery back up systems provide emergency battery backup for one or two Orga medium and low intensity obstruction lights in the event of power loss.

Accepts all commercial AC power between 90V and 230V. Upon failure, the battery backup system switches to battery power unattended. The duration of battery backup may vary depending on client specifications. Automatic battery charging under normal AC power.

Offshore Wind Project Solutions

Orga has a solid reputation for providing reliable and robust lighting and marking solutions for offshore wind farms. Designed to operate in the harshest environments around the world, our offshore windfarm solutions are based upon modular system integration related to country and project specific requirements. With all components meeting industry standards, we can design a complete lighting and marking system to ensure the optimal safety of your wind farm.

Aviation marking systems
Most offshore wind turbines require the same light specifications as onshore projects. However, where special national requirements are needed (e.g. Germany, UK) Orga has the product versions you need to comply with these requirements to provide:

- Modular system integration
- Country specific solutions

Helicopter helihoist operations status light
Orga is working closely with the UK Civil Aviation Authority to design and develop a helihoist status light to ensure safe helicopter hoist operations to UK offshore wind turbine platforms. Final flight assessment trials to verify required optical performance criteria have been completed.

Compliant with draft UK CAA CAP437 standards, the Orga helihoist light provides pilots with visual confirmation that the wind turbine is fully shut down and in safe mode to allow winching to commence.

Marine marking systems
Orga offers a complete range of aids to navigation marking solutions for offshore wind farms and meteorological measuring masts.

Marine marking requirements – based on International Association of Lighthouse Authorities 0–139 recommendations – are specified by national navigation authorities.

Aware that each offshore wind project has its own project-specific requirements, Orga can supply almost any combination of required system elements including:

- 3NM, to15NM marine LED lights including GPS synchronisation
- ½ NM, 1NM, 2NM foghorn sound signals
- Visibility sensors for activation of marine lights and foghorns
- Battery back-up systems and autonomous power systems including solar power and fuel cell technologies

Helihoist light

Wind turbine helicopter operations status light

- **High visibility LED warning beacon**
- **No maintenance required over**
- **service life**

The Orga helihoist light facilitates helicopter hoist operations to offshore wind turbine platforms. Highly accurate green steady light beam indicates to the pilot when the turbine is in a safe configuration to conduct hoist operations. Green flashing light denotes unsafe condition.

Orga proprietary optical design complies with advised UK CAA CAP437 requirements* for helicopter operations status light for offshore wind turbines.

Proven offshore product design operates from separate Orga control panel.

*(pending final specification, not finished at time of printing)

Marine Lights

Marine lights on offshore wind energy facilities

- **Effective range 3NM to 15NM**
- **Omni-directional visual coverage**
- **Strong and corrosion free design**

These marine lights incorporate advanced LED optical and system control technologies for reliable white, yellow and/or red flashing marine navigation lights with low power consumption, long service life and robust construction.

Depending on model, compliant with minimum requirements of IALA, UK DECC North Sea, US Coast Guard regulations and various national standards for marking offshore structures.

FH800

Foghorn

- **2NM omni-directional foghorn**
- **360˚ beam of sound**
- **Compact and robust design**

The Orga FH800-3 foghorn complies with the requirements of IALA, UK DECC North Sea, US Coast Guard and Dutch Mining regulations for marking offshore structures.

Durable and low maintenance, smart technology provides combined main/ secondary main foghorn option with a double power source to meet redundancy requirements.

Comes standard with Morse code U 30 seconds audio signal with alternative codes available on request.

Innovation and technology

Orga started 40 years ago as an electrical service and maintenance company working on North Sea offshore oil and gas platforms. While inspecting and servicing aviation obstruction lights, installed marine lanterns, foghorns, DC power systems and explosion proof electrical equipment, the company developed ideas and innovative products to improve the reliability of these systems and contribute towards enhanced safety and lower operating expenses.

Delivering innovation starts with understanding our customers and their challenges. Our research and development team works in close cooperation with our marketing team, whose members understand the various markets and the specific requirements of clients, regulatory authorities and stakeholders. Together, they translate regulations and customers' requirements into new concepts and cost effective products.

"Our products continuously improve through working in close cooperation with customers and industry organisations to develop innovative solutions."

The research and development team's expertise encompasses optics, acoustics, lamp control circuits, electromagnetic compatibility, radio frequency interference, condition data gathering and transmission, specific lightning protection, mechanical constructions, explosion proof constructions and hardware and software development.

Our products incorporate state-of-the art technology solutions, based on the requirements of national and international regulations, safety and quality standards, all developed to offer users high reliability with the lowest cost of ownership.

We continue to build on our track record of providing the right technology. Site surveys, maintenance, training programmes and sophisticated remote product health monitoring are all part of the services we offer. We continue to invest in research and development and the expertise and skills of our people.

Quality control

Quality is an important fundamental attribute of Orga's products and services. Our quality management not only focuses on product quality but also on the means to achieve it. We constantly monitor our management, production and inspection processes to ensure fit-for-purpose products and systems and to improve efficiency and reliability. Our quality management system uses internal audits, client feedback and management reviews to monitor how well we are achieving our quality goals.

Our customers continue to choose us over our competitors, as they trust the quality, reliability and cost effectiveness of our products and systems to help them achieve their goals and the support services we consistently deliver.

Our quality assurance system is accredited to ISO 9001:2008 by the Dutch certification body DEKRA.

DEKRA has also certified Orga for the production of explosion proof electrical equipment in accordance with ATEX directive 94/9/EC and European Standard EN13980. This authorises us to manufacture equipment and protective systems components for use in potentially explosive atmospheres.

"Our products differentiate us from our competitors in terms of quality, design and service life, availability and sustainability."

We value the input from our customers and welcome your feedback. We would therefore appreciate it if you would fill in our contact form. (available on our website).

Service

Orga's service department provides the following services:

- commissioning,
- troubleshooting,
- inspection and survey,
- renovation,
- maintenance,
- training and consultancy services.

To ensure proper installation of specific products, we offer installation supervision and commissioning services for our explosion proof equipment.

Orga Aviation actively promotes installed base inspection management systems and advises its customers to inspect product systems regularly to ensure a more proactive inspection and maintenance approach. This after-sales service for aviation obstruction lights and related products includes inspection visits, reporting on the status of installed products, and advice to the customer on near-future maintenance, the expected life time of new products and options to update to newer technology.

Our service team operates from our main facilities in The Netherlands, and from our office in Malaysia. It offers on-site but also in-house repair services. A 24/7 service is available for immediate support.
In addition, Orga works in close cooperation with key partners around the world to provide a locally based fast first-line support to its customers and product end-users. Troubleshooting service on site is generally offered within 24 to 48 hours, depending on the location. Each inspection or maintenance visit comes with a full inspection report.

One-day training workshops for customer personnel can be organised at the client's offices, at our head-office, but also on-site. These workshops are tailored to specific needs of the customer. Training groups are generally small with maximum of 10 people. In addition to the above mentioned product services, Orga's service department also carries out field research for the R&D department to support technology improvements.

Our service engineers have extensive international experience. They work safely and efficiently – all have safety, medical and emergency certificates, including the Basic Elements of Safety (VCA/SCC) certificate and approved basic OLF, NOGEPA and OPITO certificates. In addition, they have specific application, working at height, product and culture know-how which ensures a responsive and high-quality service. Our service engineers are dedicated, enthusiastic, friendly and always willing to go that extra mile.

For further information contact our head office

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