Quantec signals

SMART LIGHTS FOR SAFE FLIGHTS

Buildings and Industry Facilities

Quantec signals

Reliable LED obstacle lights for buildings and industrial facilities.

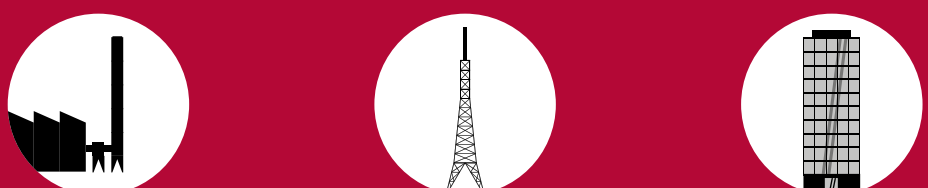
Quantec Signals GmbH develops and manufactures high-quality systems for obstacle lighting and control solutions – made in Germany. Our products reliably and efficiently mark structures; always in compliance with ICAO, FAA, and DIN regulations.

As specialists for visual safety systems, we combine state-of-the-art LED technology, robust industrial components, and intelligent control technology. Whether high-rise buildings, chimneys, radio masts, or cranes – we offer customized solutions for every type of structure.

From development and manufacturing to quality assurance, every step is carried out in-house. As a result our systems meet the highest standards of durability, energy efficiency, and reliability – for predictable safety and smooth operation.

Visit us online

For more information and direct contact, please visit: www.quantec-building.com

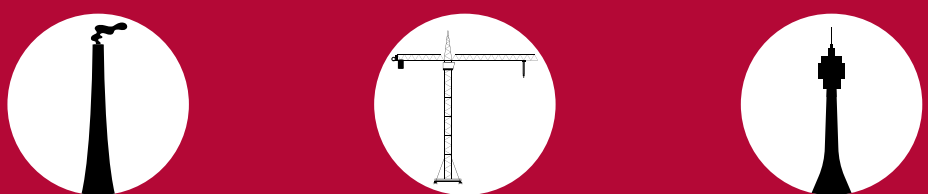


Comprehensive solutions for maximum safety.

When it comes to marking buildings, every detail counts. Quantec Signals GmbH not only offers individual components, but also complete, coordinated systems – from lighting and controlling to monitoring.

Our solutions comply with all relevant standards and can be precisely integrated into existing building technology. Modular control systems and intelligent sensor technology ensure that systems remain flexible, low-maintenance, and expandable at any time.

Planners, operators, and architects benefit from a clear structure: one contact person, one system, one goal—reliable obstacle lighting day and night.



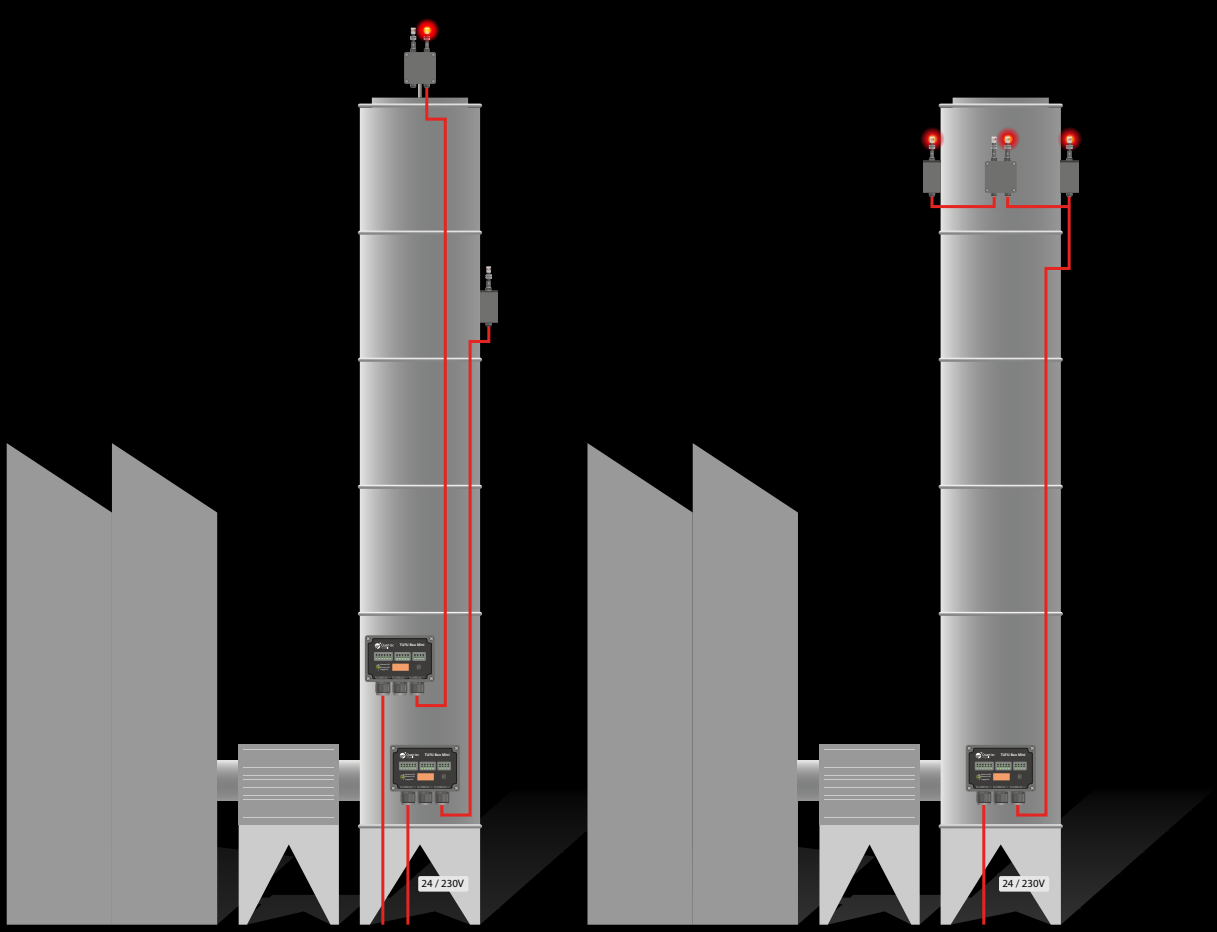
Compact systems for industrial exhaust air systems

Exhaust air systems must be clearly visible to air traffic in order to prevent collisions with aircraft. These systems often are located in industrial areas, chemical parks, or on hospital roofs. Compliance with aviation obstacle marking regulations is mandatory in these areas.

Quantec Signals systems can be integrated into new buildings or used to retrofit existing warning light systems.

Recommended system solutions:

- Warning light: Photon Single Box, Photon Redundant Box
- Control solution: Tower Base Box Mini (TUFU-Box Mini)



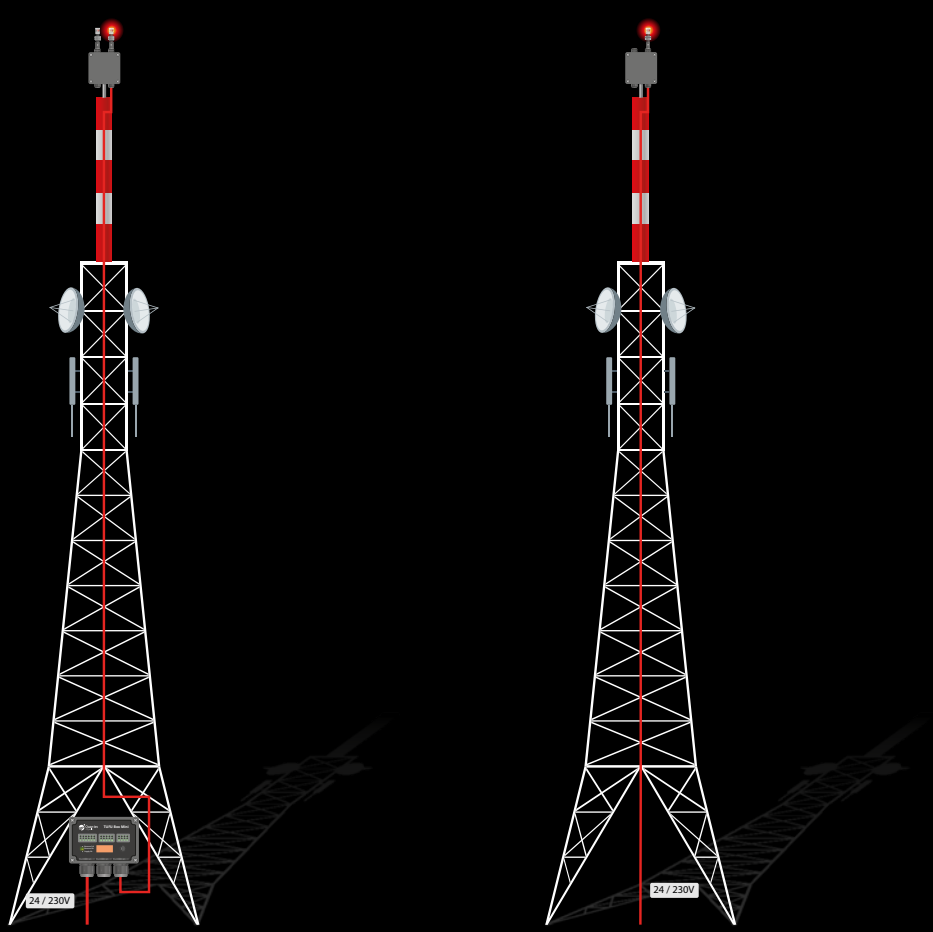
Reliable marking for radio and communication towers.

Radio towers are among the most frequently lit structures. Depending on their height, location, and use, different requirements apply to obstacle lighting. Quantec Signals offers standard-compliant and reliable systems that are easy to plan, install, and maintain.

The systems meet all relevant specifications for the marking of radio and transmission towers in accordance with ICAO, FAA, and DIN. They can be used for new constructions as well as for retrofitting existing systems.

Recommended system solutions:

- Warning light: Photon Single Box, Photon Redundant Box
- Control solution: Tower Base Box Mini (TUFU-Box Mini)



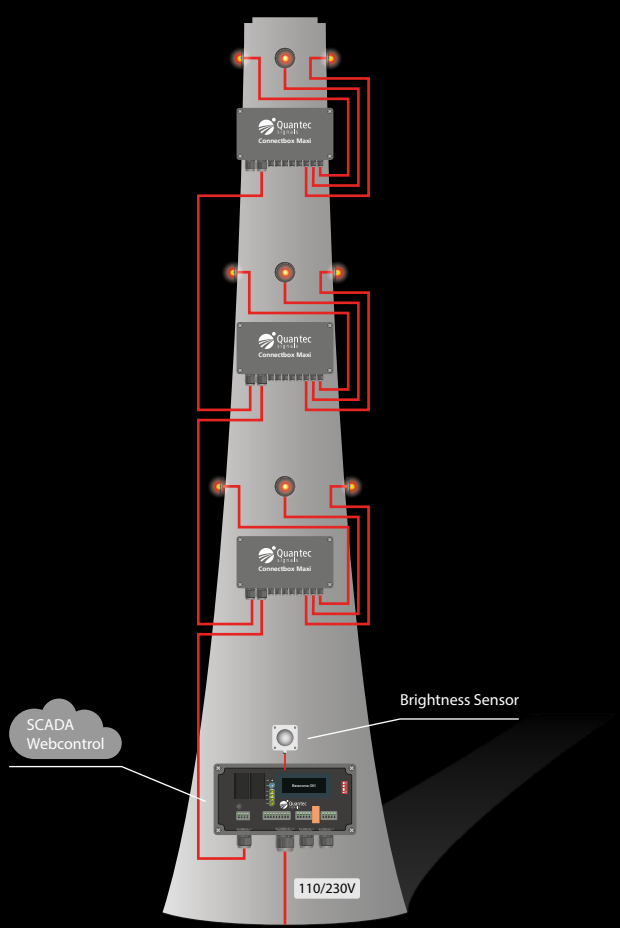
Robust solutions for extreme conditions.

Due to their height and location, chimneys and industrial facilities are classified as structures requiring approval. Clear specifications apply to these objects with regard to obstacle lighting in order to ensure safety in the airspace.

Quantec Signals' systems are designed to the specific requirements of such installations and offer a reliable, standard-compliant solution for new installations and retrofits.

Recommended system solutions:

- Warning lights: Photon with C-bracket, Photon Single Box, Photon Redundant Box, through-wall lights, through-wall lights with mounting plate
- Control solution: Tower Base Box Mini (TUFU-Box Mini), Connectbox Maxi



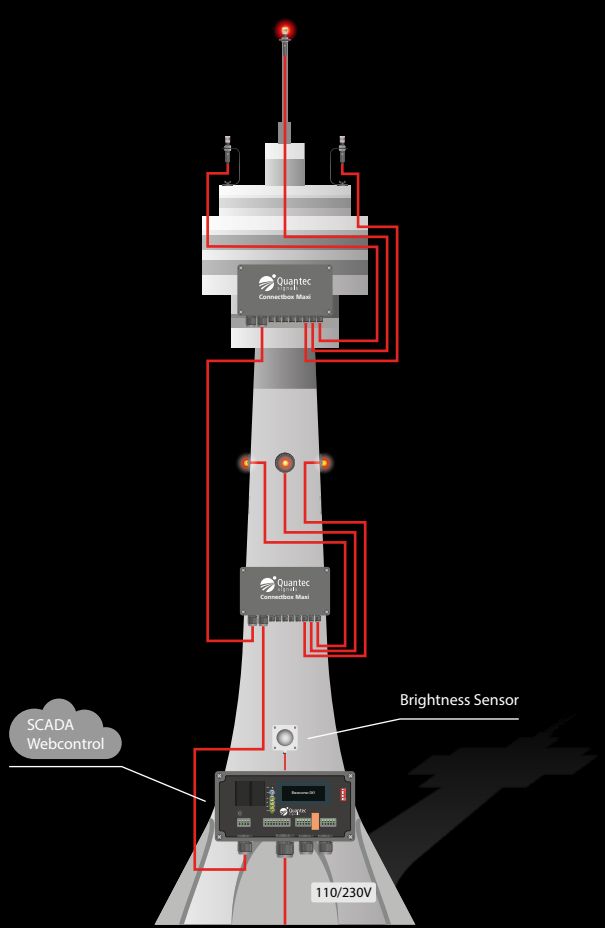
Visibility at all levels.

Television and transmission towers are among the tallest structures and must be illuminated in accordance with legal requirements. Quantec Signals' systems ensure safe and standard-compliant marking of these structures and can be individually adapted to the respective tower structure.

With proven LED technology and modular control systems, the systems guarantee reliable operation for many years.

Recommended system solutions:

- Warning lights: Photon with C-bracket, Photon Single Box, Photon Redundant Box, through-wall lights, through-wall lights with mounting plate
- Control solution: Tower Base Box Mini (TUFU-Box Mini), Connectbox Maxi



Integrated systems for modern buildings.

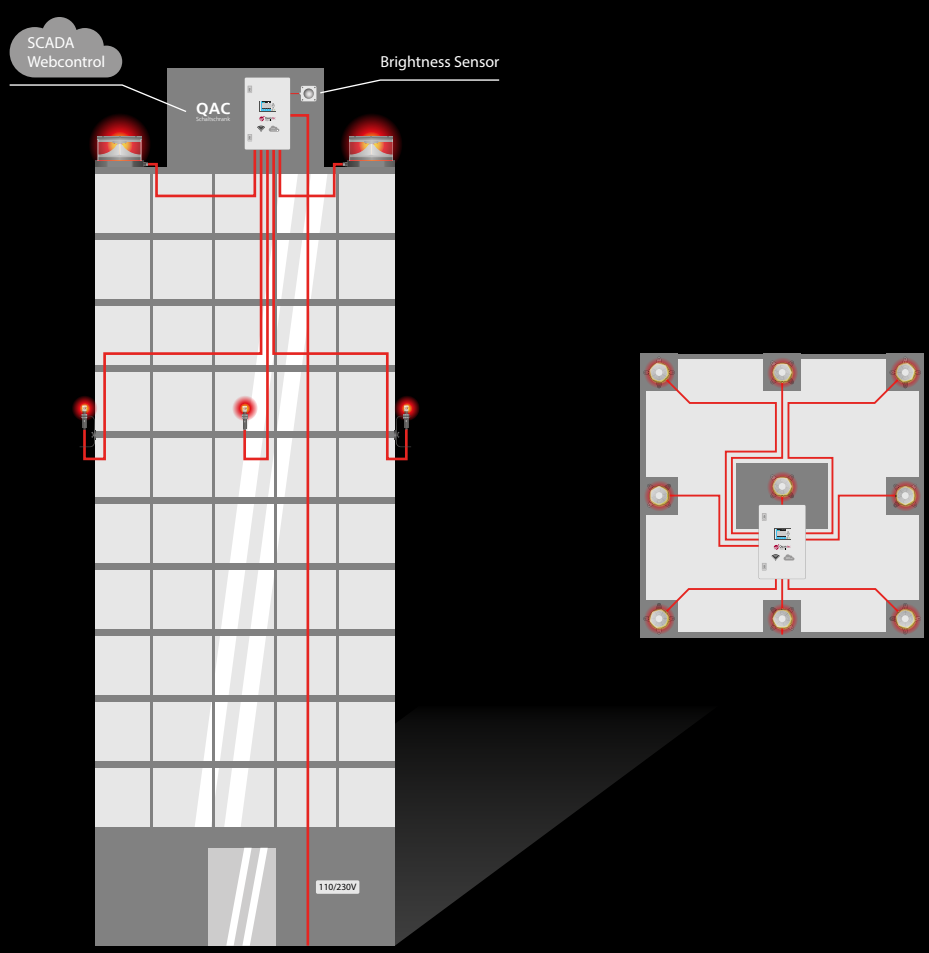
Depending on their location and height, high-rise buildings may require obstacle lighting. Quantec Signals offers two proven concepts for this purpose, which can be flexibly adapted to different building types and requirements.

Basic concept: Simple, standard-compliant lighting with 230 V AC lights – ideal for buildings with standardized requirements and low installation costs.

Advanced concept: System technology with extended options for monitoring and control. Can be integrated into existing building automation or SCADA systems.

Recommended system solutions:

- Warning light: Photon with C-bracket, MIRI R2
- Control solution: Building AC control cabinet



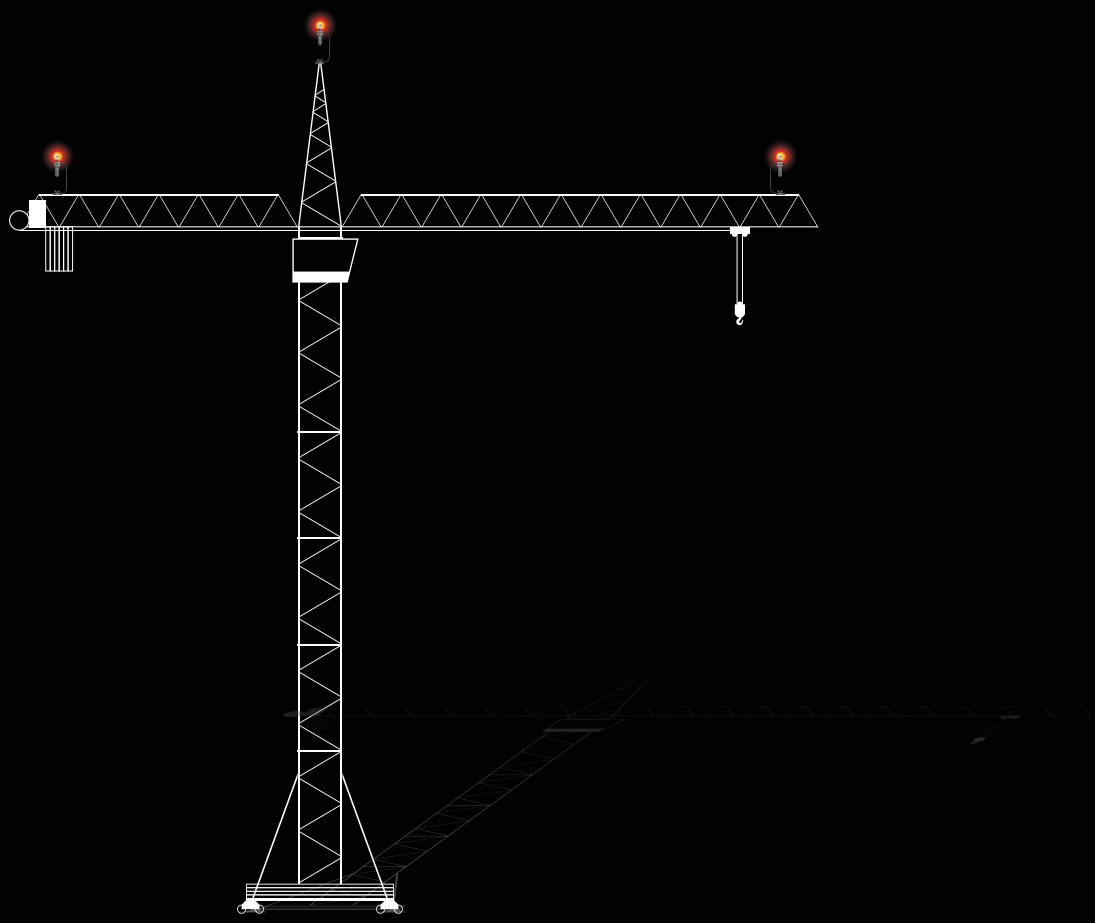
Safety on construction sites.

Due to their height and mobility, tower cranes represent a potential obstacle to air traffic. They require temporary obstacle lighting that is easy to install and maintain.

Quantec Signals' systems meet these requirements with robust, reliable components that have been specially developed for use on construction sites. They are designed for temporary operation and can be easily disassembled and reused elsewhere once construction work is complete.

Recommended system solutions:

- Warning light: QFW3, Funzel, Photon with C-bracket
- Control solution: Crane AC control cabinet



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Photon lighting concept

Efficient obstacle lighting with a system.

The Photon lighting concept from Quantec Signals is based on state-of-the-art LED technology and offers standard-compliant marking for buildings, towers, industrial facilities, and cranes. The lights are available in different versions and can be flexibly adapted to the respective requirements.

The concept has a modular design. Each system consists of energy-efficient low-intensity lights, a suitable control system, and a secure power supply. The result is a durable, maintenance-free, and scalable solution that can be perfectly integrated into existing infrastructures.

Key features:

- ICAO and DIN-compliant LED technology
- Maintenance-free LED technology, energy-efficient and durable
- ICAO low-intensity type A, compliant with international standards
- Integrated brightness sensor (Photon Single / Photon Redundant)
- High operational reliability and energy efficiency
- Modular concept for different applications

Photon with C-bracket

Ready-to-install low-intensity light for marking buildings. The C-bracket enables stable mounting on masts or facades.

Photon Single

The Quantec Photon Single is a compact single light with control box, ICAO low-intensity type A. It has an integrated brightness sensor for automatic day/night switching. For smaller installations or as part of modular lighting systems.

Photon Redundant

The Quantec Photon Redundant is a compact, redundant dual light with control box, ICAO Low-Intensity Type A. It offers increased reliability thanks to two independent light sources and also has an integrated brightness sensor.

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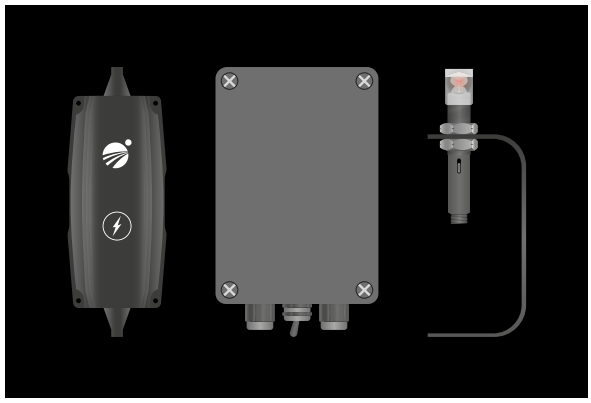
Photon Construction



Temporary obstacle lighting for construction sites

The Photon is a self-sufficient obstacle lighting system for temporary or mobile applications during the construction phase. It consists of the Low Intensity Type A obstacle light "Independent Photon M," a DC battery box for power supply, and a battery charger with connecting cable.

The system operates autonomously with automatic switching between day and night mode via the integrated brightness sensor. It is designed for outdoor use and enables safe, standard-compliant operation even without a fixed power connection.

Key features:

- ICAO low-intensity Type A obstacle light
- Autonomous operation with external battery box
- Automatic day/night switching via brightness sensor
- Robust, weatherproof construction for temporary installations
- Charging time approx. 2 hours (with 8 A charger)
- Operating time up to ~ 13 days (example value based on 15 hours of illumination per day and 25 °C)
- Class III overvoltage protection DIN EN IEC61400-24

Through-wall lights & through-wall lights with mounting plate

Low-intensity obstruction lights for challenging installation conditions.

The through-wall lights with or without mounting plate have been specially developed for installation through building walls, e.g., on chimneys or industrial facilities. The design allows direct mounting through the wall. They are also ideal for retrofit projects on chimneys or industrial facilities with older lighting systems.

The mounting plate version enables stable attachment to existing lighting openings in chimneys. The devices are maintenance-free and offer energy-efficient LED technology, designed for applications with limited installation space and high requirements for weather and temperature resistance.

Key features:

- Minimal installation space required due to wall mounting (through-wall principle)
- Optional mounting plate for uneven surfaces
- Maintenance-free thanks to modern LED technology
- Energy-efficient and compact design

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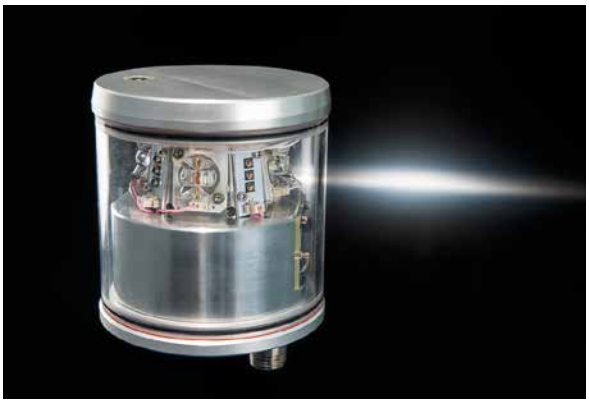
Funzel



Quantec Funzel – Low-Intensity Obstacle Light

The Funzel is a compact low-intensity obstacle light which is delivered completely with integrated control system. The system uses GNSS signals for precise synchronization of the flash sequences and is therefore immediately ready for operation without any additional connection to other lights. GPS, QZSS, GLONASS, Galileo, and Beidou are supported.

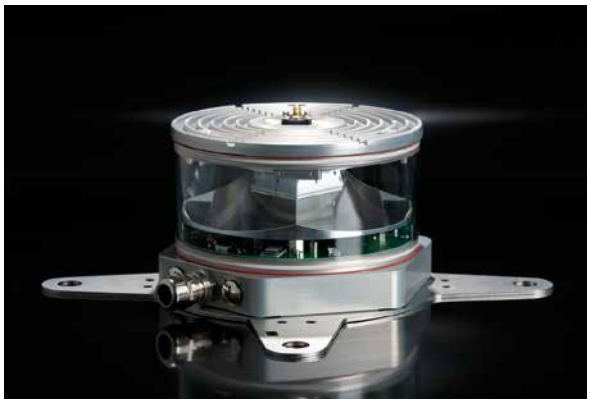
The Funzel works with red and infrared LEDs and has integrated brightness sensors for automatic adjustment of operating parameters. An internal logbook records switching times, events, and operating data over many years.

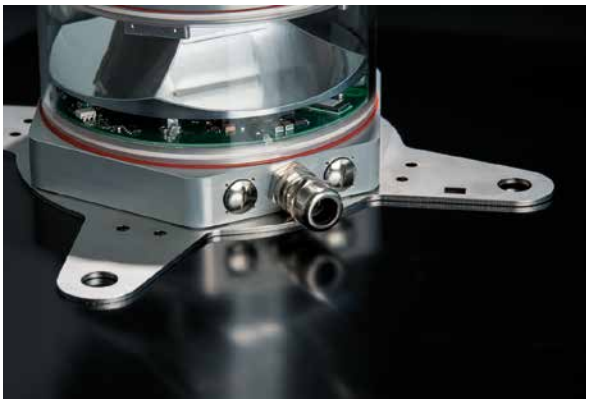
The housing is made of corrosion-resistant, sea water-proof aluminum and is equipped with UV- and ozone-resistant optical units. The built-in Class III overvoltage protection ensures additional operational reliability. With IP68 protection and a wide operating temperature range, the Funzel is designed for demanding environments.

Key features:

- GNSS-synchronized flash sequence (GPS, QZSS, GLONASS, Galileo, Beidou)
- Integrated control, ready for immediate use
- Red and infrared LEDs (ICAO or FAA L-810F compliant)
- IP68 protection rating for demanding environments
- Corrosion- and sea water-resistant aluminum housing

MIRI R2





Medium-intensity obstacle lights for the most demanding applications

The MIRI R2 is a universally applicable medium-intensity LED obstacle light developed for high-rise buildings and industrial facilities. The system operates with GNSS-controlled synchronization and has an integrated brightness sensor for automatic day/night switching.

An integrated logbook with long-term recording, RS485 interfaces, and optional radio network modules enable precise monitoring and control. The device is maintenance-free, offers Class III overvoltage protection in accordance with DIN EN IEC61400-24, and is made of corrosion-resistant, UV- and ozone-resistant materials. The MIRI R2 can be supplied with or without heating.

Key features:

- ICAO, FAA, and DIN compliant (Medium Intensity Type B)
- Integrated GNSS synchronization
- Automatic day/night switching via brightness sensor
- RS485 communication, alarm contacts, logbook function
- Maintenance-free, corrosion- and UV-resistant

Quantec Tower Base Box (Tufu Box)

Control unit for up to 8 Connectboxes

The Quantec Tower Base Box (Tufu Box) supplies up to eight Connectboxes (Maxis) in series for up to eight tower lights or up to four redundant tower lights. It reports each individual error for precise localization and uses a wire-saving system for power supply and communication.

An integrated overvoltage protector ensures additional operational reliability. A brightness sensor can be connected as an option.

Key features:

- Compact design
- Supply for up to 8 Connectboxes (up to 8 tower lights / 4 redundant lights)
- Reporting of individual errors for precise localization
- The Tower Base Box (Tufu Box) can be connected to a modern building management system (SCADA)

Quantec Tower Base Box Mini (Tufu Box Mini)

Compact control unit for 230 V AC lights

The Quantec Tower Base Box (Tufu Box) Mini combines the power supply for any number of 230 V AC lights connected in series, the optical status display for the lights, and the provision of a galvanically isolated fault reporting loop in a compact housing.

The system provides an optical display of the supply voltage and the operating status of the connected lights (OK/Error). It is equipped with overvoltage protection and is CE and RoHS compliant.

Key features:

- Compact design
- Optical display of supply voltage and light status (OK/Error)
- Supply of any 230 V AC light
- Potential-separated error reporting loop
- Integrated overvoltage protection

Connectbox Maxi

Connection box for up to 8 tower lights or 4 redundant lights

The Quantec Connectbox Maxi combines eight terminals in a compact housing for connecting up to eight tower lights or up to four tower lights, each with a redundant light (M12 connector). In conjunction with our Tower Base Box (Tufu Box), the Connectbox Maxi can also be used across multiple levels.

Integrated overvoltage protection ensures additional operational reliability. Various operating modes can be set via the DIP switches (e.g., flashing or continuous light control, 8 single lights or 4 redundant lights).

Key features:

- Compact design
- Terminal blocks for up to 8 tower lights or 4 redundant lights
- Integrated Class III DIN EN IEC61400-24 overvoltage protection
- Up to 8 boxes can be connected in series to one Tower Base Box (Tufu Box)
- Error detection possible for each light

Building AC control cabinet

Control and supply unit for up to ten 230 V lights

The Quantec building AC control cabinet combines the power supply and monitoring of up to ten 230 V lights in a single housing, controlled via a Siemens LOGO! controller.

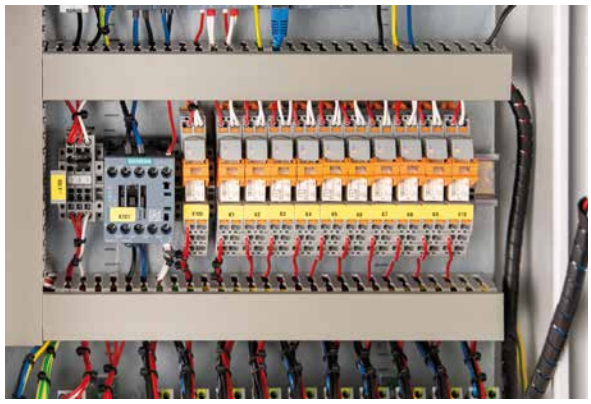
Status and error messages as well as the override of the brightness sensor can be accessed via an integrated web page.

An external brightness sensor can be connected. The integrated overvoltage protection ensures additional operational safety and protection of the connected lights.

Key features:

- Compact design
- Supply for up to ten 230 V lights
- Control via Siemens LOGO!
- Status and error messages as well as sensor override via webpage
- Connection for external brightness sensor
- Integrated Class III DIN EN IEC61400-24 overvoltage protection

Crane AC control cabinet & crane battery cabinet



Quantec Crane AC control cabinet

The Crane AC control cabinet supplies and monitors up to eight obstacle lights (24 V) and can control eight normal lights as well as four redundancy lights. This makes it particularly suitable for tower cranes and similar applications where reliable and clearly structured lighting is required.

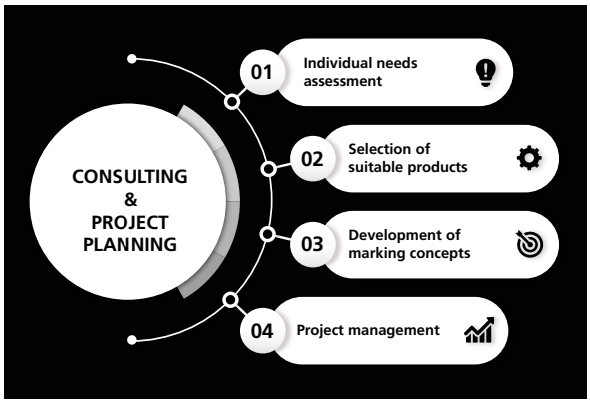
A web status page and Modbus TCP are available via the integrated Ethernet interface. In the event of a malfunction, the control cabinet automatically sends an alarm e-mail. Battery faults are also detected and reported via the collective error message.

An external brightness sensor can be connected directly. The robust housing with IP66 protection rating enables reliable operation even under demanding construction site conditions.

Quantec Crane Battery Cabinet

The battery cabinet provides a self-sufficient 24 V / 100 Ah power supply, enabling the obstacle lighting to operate independently of the mains power supply. A two-meter connection cable is included in the scope of delivery for connection to the AC control cabinet. Together, the control cabinet and battery cabinet form a robust, compact complete solution optimized for use on construction sites.

Consulting & Project Planning



From concept to standard-compliant implementation

Quantec Signals GmbH supports builders, planners, and operators in the professional design and implementation of obstacle lighting systems. All relevant standards and technical requirements are taken into account as early as the planning phase in order to realize a safe, economical, and approvable solution. Our services include technical project analysis. We accompany the entire process during implementation.

Key services:

- Technical consulting
- Support with approval and planning documentations
- Creation of ICAO, FAA, and DIN-compliant concepts
- Project documentation

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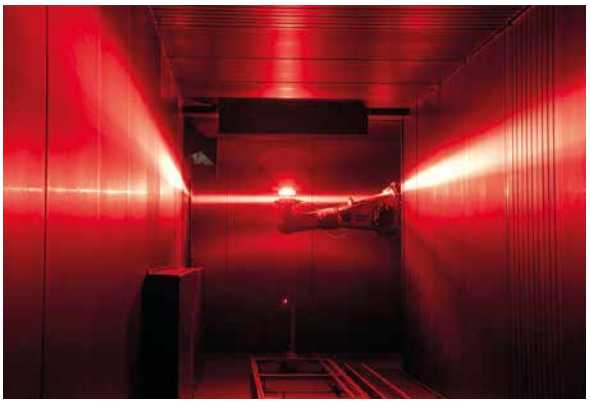
Intelligent control and monitoring of obstacle lighting

Quantec Signals' software solutions enable central monitoring and control of complete obstacle lighting systems. All relevant messages regarding operating, status and error can be displayed and documented in real time via web-based applications or SCADA systems.

Integration is achieved via standardized interfaces and protocols, allowing Quantec systems to be integrated into existing infrastructures. This open architecture ensures efficient remote monitoring, maintenance, and analysis of all connected components.

Features & advantages:

- Integration into SCADA and building management systems
- Web-based display of status and error messages
- Automatic logging and documentation
- Interfaces: RS485, Modbus, TCP/IP
- Support for remote maintenance and data analysis
- Secure communication through standardized protocols



Tested quality and perfectly coordinated systems

Quantec Signals GmbH products comply with all relevant international and national regulations for obstacle lighting systems. Every component is tested and documented at the Goslar factory.

Approval and testing are carried out in accordance with defined quality guidelines, including functional and endurance tests. Only fully tested systems are delivered – for maximum operational safety and traceability in all project phases.

At the same time, Quantec Signals offers comprehensive system solutions from a single source:
From the light to the control system to software integration, all components are technically coordinated. This results in efficient, low-maintenance systems with high availability and minimal interface requirements.

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signals

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