

## CU Phosco

an in-tension wire rope system, allowing lighting maintenance operations to be undertaken safely at ground level,

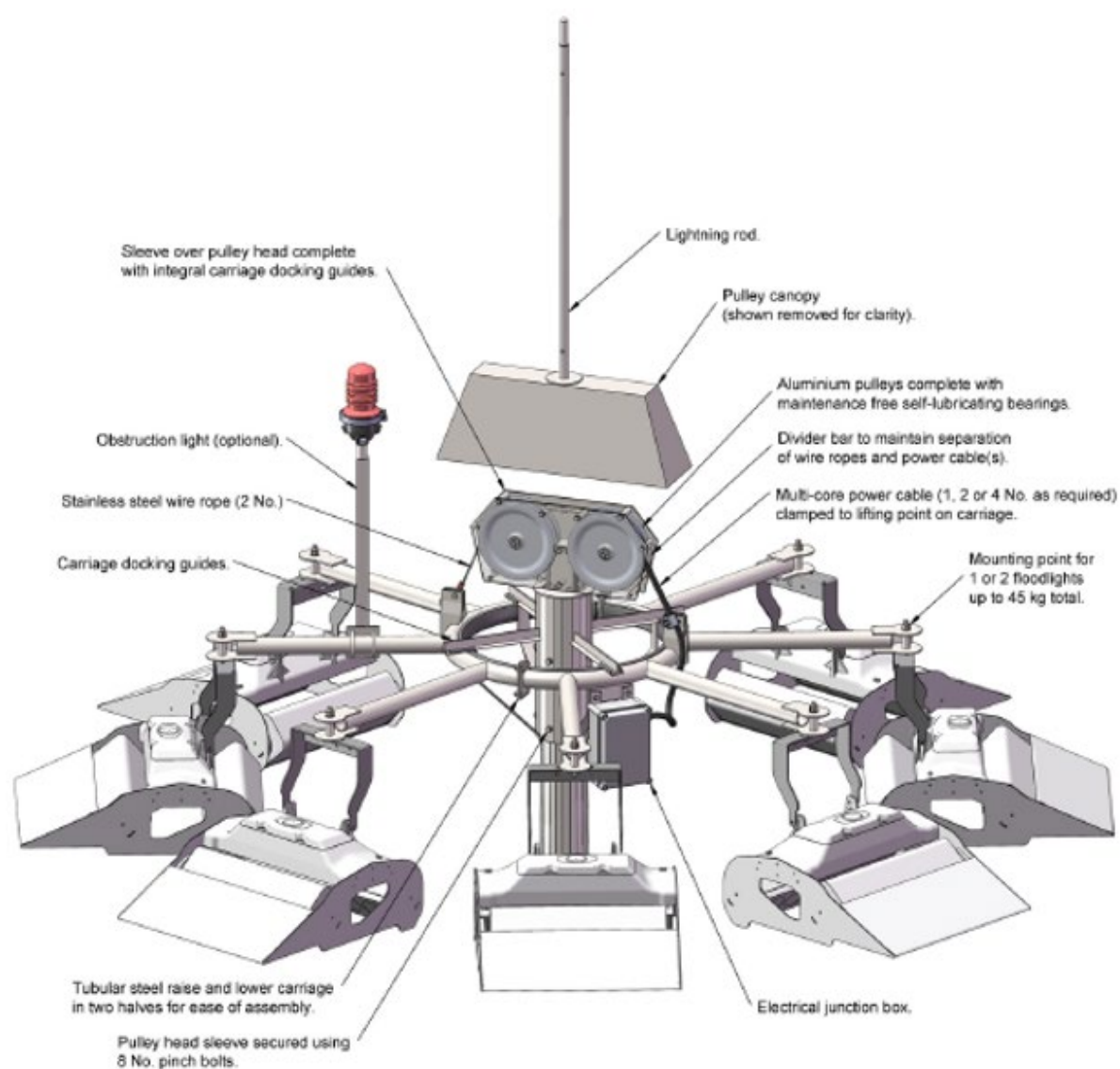
### *the challenge*

High masts can reach heights of up to 60 metres, presenting significant safety risks during maintenance and operation. Traditional high mast systems often require technicians to work at elevated heights, which can be both dangerous and costly, or rely on a raise-and-lower mechanism which traditionally feature a latch that locks the headframe in place to support the luminaires (when raised). However, customer feedback revealed that these systems frequently get stuck due to accumulated, dirt, bird droppings, salt and dust. As a result, even routine maintenance often requires costly, high-access equipment to manually dislodge the stuck carriage, increasing maintenance downtime and exposing workers to potential safety hazards. The CU Phosco In-Tension Raise & Lower High Mast system was designed to address these safety issues head-on. By eliminating latches altogether and using an in-tension wire rope system, all operations occur safely at ground level, drastically reducing the risk of accidents. This in-tension design also allows for targeted operational closures, only affecting the area directly around the mast and limiting the impact on surrounding operations. The result is a maintenance solution that puts safety and efficiency at the forefront, addressing common industry challenges related to high-access maintenance.



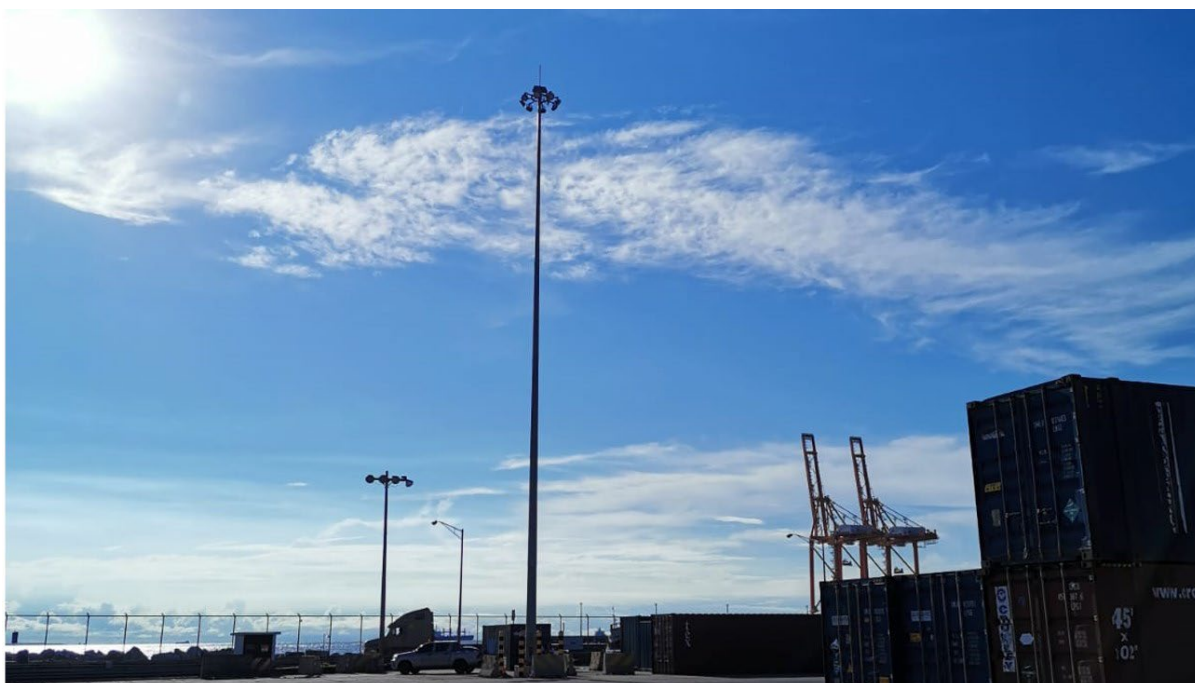
*the innovation*

The CU Phosco In-Tension Raise & Lower High Mast system is a groundbreaking solution for high mast lighting that entirely removes the need for work at elevated heights. Unlike traditional systems that use latches, this system relies on in-tension stainless steel wire ropes holding the luminaire carriage at the top. With no latches, there are no mechanisms to get stuck—a common issue in high mast systems due to dirt, dust, salt, sand and other environmental factors. This smooth, single-action design allows for the carriage to be lowered or raised without obstruction, making maintenance far simpler and safer. Additionally, the system features a patented in-tension winch installed at the mast base which can be operated remotely, further reducing the need for technicians to access high-risk areas. Its adaptable design, suitable for confined spaces and various mast heights, offers a reliable and low-maintenance solution for ports, airports, industrial sites, and other large-scale high mast applications.



### *how it was implemented*

The CU Phosco In-Tension Raise & Lower High Mast system was implemented with a focus on accessibility, safety, and ease of operation. Installation involves placing an in-tension winch at the mast base, eliminating the need for latches, clutches, or brakes, and relying on self-sustaining wire ropes to secure the luminaire carriage. The system's design allows the carriage to move over pulleys at the mast head, a smooth action supported by the wire ropes without additional mechanical supports that could become jammed. Technicians operate the system using a lightweight, reversible power tool that includes a torque-limiting device for controlled lowering and raising of the carriage. A remote-control switch allows operation from a safe three-metre distance, keeping personnel at ground level. This approach can be seamlessly integrated into our high masts, with all components factory-prepared making setup straightforward, safe, and time-efficient.



### *result*

The CU Phosco In-Tension Raise & Lower High Mast system has transformed high mast maintenance by prioritising safety, reliability, and ease of use. Since its implementation, users have reported significant safety improvements due to the ground-level operation, which eliminates any need for high-access maintenance. The In-Tension design keeps wire ropes stable and healthy, reducing wear and tear and lowering long-term maintenance costs. Operational disruptions have been minimised, with area closures now limited to the immediate mast surroundings rather than large areas of operational space. Additionally, the absence of latches has removed the common problem of jammed mechanisms, meaning maintenance is smoother, faster, and more predictable. Clients, especially in high-traffic environments such as ports and airports, have praised the system's efficiency and reliability,

noting that it has significantly reduced maintenance-related downtime and created a safer work environment for personnel.

### *conclusion*

The CU Phosco In-Tension Raise & Lower High Mast system is a meaningful advancement in high mast technology – see animation: <https://youtu.be/CLT8gmvRk7U>.

This low-cost innovation enhances safety in high mast applications by tackling height-related risks and latch malfunctions. With a patented latch-free design, it eliminates costly high-access work, allowing maintenance safely from ground level using a mobile power tool—even in confined spaces. This system not only meets but exceeds industry safety standards, setting a new benchmark for high mast systems worldwide. We're proud to provide a safer, more efficient solution that improves operational reliability in critical environments.

Dustin Nedohin, Business Developer, Elec-Tech Sales Ltd, commented: "We have been installing CU Phosco's raising and lowering systems in Canada since

1992. The worm gear winch system offers clients huge safety advantages as there is no work at elevated height and fewer fail points. The unique system does not require latches that often get jammed on site. When latches jam up, personnel in the field must go up 30m or 40m in a boom to un-jam them. The CU Phosco solution keeps operators safely on the ground. Their system is easy to use, simple, safe, and reliable"



LINK: <https://www.cuphosco.com/>

