

Safer, smarter bulk handling: how steute and Kiepe.Industry are elevating unloading technology

Loading and unloading bulk in harbours is a typical application for switchgear developed and manufactured by the steute Technologies Group which, since spring 2026, has also incorporated Kiepe.Industry GmbH. The joint portfolio offers solutions for control- and safety-related tasks at the waterfront — robust, with wireless signal transfer and for areas with dust-explosion risks.

With Kiepe.Industry having been integrated into the steute Technologies Group in March 2026, both brands under the same roof can offer a significantly broader product range. Kiepe.Industry contributes, among other things, a comprehensive range of heavy-duty switchgear for material handling — primarily emergency pull-wire switches and belt alignment switches. There are synergies here with the product lines of the steute Controltec division, which also offers other many types of corrosion-resistant and robust switching devices in its portfolio and, in addition, focuses on wireless switching devices.

ENSURING SAFETY AND PRODUCTIVITY IN BULK CONVEYING PROCESSES

Among the core products of both brands are emergency pull-wire switches. These are based on the principle ‘one pull of the wire — and the belt stops’, and trigger the safety-related shutdown of conveyor belts at loading and unloading facilities in ports — for pull wire lengths of up to 200 metres (photo 1).

It goes without saying that these



Classic switchgear for conveyor belt systems not only in ‘ship to shore’ applications: robust emergency pull-wire switch from Kiepe.Industry.



Especially advantageous in ship-to-shore loading and unloading of bulk: Wireless heavy-duty switchgear, in this case a belt alignment switch.

switching devices comply with current machine safety guidelines, as does the fact that they are corrosion-resistant and are

also available in dust explosion-protected versions. The product portfolio includes additional safety and monitoring devices such as those for speed detection and control of conveyor drives, as well as belt alignment switches (see photo 1) and complete systems for belt damage monitoring.

Also part of the portfolio are heavy-duty switches used to monitor the end position of moving machine parts in bulk loading/unloading systems.

They have a robust housing and can be equipped with up to four positively actuated changeover contacts with snap-action function.

In crane-driven ship-unloaders for bulk material, anti-two-block switches made by steute protect the crane hook from colliding with the head of the boom. Another frequent application of steute's switchgear in harbours are robust positioning switches and sensors for monitoring the position of loading arms.



A rough application: footswitch for the release hook of anchoring ropes.

CORROSION-PROOF, DNV APPROVED AND FLEXIBLE TO USE

Many of the mentioned control and safety devices are available in explosion-proof variants, compliant to ATEX and also to other international regulations for use in hazardous areas.

For the majority of the product line, DNV certification ensures suitability for use in demanding maritime applications. The product features also include a corrosion-resistant design and a wide temperature range (down to -60°C , depending on the series).

The position switches, which are frequently used in marine and port engineering, can be adapted to specific applications using different actuators and can also serve as control devices or pull switches.

WIRELESS SWITCHGEAR: AN ADVANTAGEOUS TECHNOLOGY IN HARBOUR APPLICATIONS

In port applications in particular, switchgear that transmits signals via robust, proven radio technology is a good choice (photo 2). In general, these devices eliminate the need for signal transmission cables, which are inherently susceptible to wear and damage. In the case of ship loaders and unloaders, there is the additional benefit that a mobile unit (e.g., mounted on the ship or a flexible belt unit) can communicate with landside conveyor systems without a physical cable connection.

This wireless capability is also advantageous during the anchoring process of ships, specifically with foot switches used to release anchorage hooks (photo 3). For applications directly at the water's edge, a corrosion-proof design and resistance to



Deep dive and pressurizing: waterproof tests of foot switches in the steute lab (and, below, in situ).



high mechanical stress are key requirements. Looking at a traditional wired foot switch, it becomes clear that operating conditions at the quay are by no means favorable for electrical devices.

'TRIED AND TESTED' IN THE NORTH SEA

The commitment that steute has shown in its development of 'Extreme' switchgear for marine, port, and offshore technology over many years is evident in features such as high IP protection and superior corrosion resistance. These qualities are verified

through comprehensive testing (photo 4) and are by no means a given for standard switchgear.

Furthermore, steute has conducted tests under real-world conditions in collaboration with an independent research institute — Fraunhofer IFAM (Institute for Manufacturing Technology and Advanced Materials; photo 5). The institute operates a test facility on the offshore island of Helgoland in the North Sea, where it investigates the performance of materials and components in corrosive environments under real-life conditions, such as continuous quay splash water. Various switching devices made by steute spent a full year exposed to splash water — and in some cases, tidal water — proving their suitability for truly extreme environments, including offshore installations, port hubs, terminals, and ships.

OUTLOOK FOR THE NEAR FUTURE

Finally, a glimpse into the steute development pipeline: an expansion of the wireless position switch lineup is imminent with the launch of the RF 99. Developed from the ground up for use under adverse environmental conditions, this new series will also be the first to feature a new receiver unit characterized by a compact design and exceptional operational flexibility.

Preparation for tests of heavy-duty switchgears under seaside conditions at the isle of Helgoland/ North Sea

