

Sweden based company Micropol Fiberoptic AB is pleased to announce the introduction of an **electrical driven fiber optical drum** for harsh environments. The cable drum fills an important gap in the market for distance-controlled robots. Distance control is required when there is a risk for the operator's health and safety. In traditional cases, communication between robot and operator is utilized by radio, but in situations where radio control cannot be used, due to e.g. radiation disturbance or radio shadow, fiber is required, especially when utilizing sophisticated sensors requiring high speed communication. The possibility to operate under radio silence is also important for military customers, to avoid detection.

The cable drum communicates with the robot to either deploy or retract the cable harness, adjusting speed and direction of the drum. Cables and connectors used are based on the Swedish Armed Forces' specifications and are utilizing Micropol's FALCON expanded beam connectors.

Editorial:

Micropol introduces electrical cable drum for harsh environments

Product development has been the key to Micropol's success since the foundation of the company in 1988. In many cases, the Swedish Armed Forces (SAF) has been the end user. The introduction of our new mechanical cable drum is based on that experience and is designed for extreme environments, both civil and military.

In situations where operations need to be performed with risk to personal health and safety, robots are sometimes used to minimize the risk for injuries. Radio controlled robots are often used, but under extreme conditions, below ground level or in radioactive environments, threaded communication is a must to limit risks for non-communication due to for example radiation. The possibility to operate under radio silence is also important for military customers, to avoid detection.

The Micropol electrical cable drum secures a safe management of the cable during operations, without limiting the maneuverability. The cable used is identical to the one Micropol delivers to the SAF, which has an impressive specification, allowing the cable to bend more than 15.000.000 times at radius 30 mm and to hang free for 2000 m with proportions and optical performance intact. The system utilizes Micropol's FALCON technology, a compact expanded beam contact with the world's best optical performance. The FALCON is the perfect fit, as it is specified to be operational under the most demanding environments existing. One of the first customers, who has asked for anonymity, is a global Sweden based company, specialized in robots for harsh environments. The major products are designated for construction demolition, but the Defence & Security sector is also an important customer segment, just as it is for Micropol.

"This project is a typical example on how Micropol is cooperating with it's customers to create value in new segments" says Mikael Andersson, Director R&D at Micropol. "We are often asked to solve problems that has challenged engineers and traditional suppliers. We offer more than 30 years of experience within the field of passive fiber optics to our customers and there are few problems which we cannot offer a solution to. The fact that we operate our own full-scale production, clean room environment and R&D laboratory, is of course also important factors."

