

Remote-controlled machines to protect people working in dangerous conditions

The next generation of unmanned ground systems

PMA

Equipped with PMA® cable protection for operations in extreme conditions.



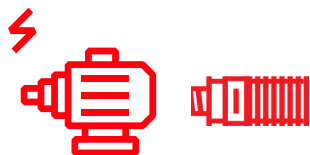
PMA® EMC cable protection solutions

protect
the KOMODO from electro-magnetic interference

DOK-ING's innovative new robotic system KOMODO, equipped with PMA cable protection, is a unique unmanned ground system (UGS).

The hybrid propulsion system is able to operate in extreme conditions such as chemical, biological, and radiological (CBR) contaminated zones, with low oxygen levels and high temperatures. Tasks include surveying, reconnaissance, patrolling, CBR detection and surveillance using a wide variety of sensors and detectors and advanced video systems. Real-time data collection, processing and analysis provide the





The very flexible
PMA® XSOL
 conduit for the mechanical
 engineering, installation and
 construction industries



operator team with necessary information for commands and operational measures.

For its work in overcoming and removing obstacles with different types of front and rear interchangeable tools, DOK-ING has been selected as a partner for the European Defence Agency (EDA) initiative known as PESCO (Permanent Structured Cooperation). In cooperation with 11 industry members from the EU, DOK-ING is developing a technical demonstrator of an operational plugin module mounted on an unmanned ground system equipped with a variety of sensors to deliver real-

time CBRN surveillance, detection and incident data in order to create a recognized CBRN picture.

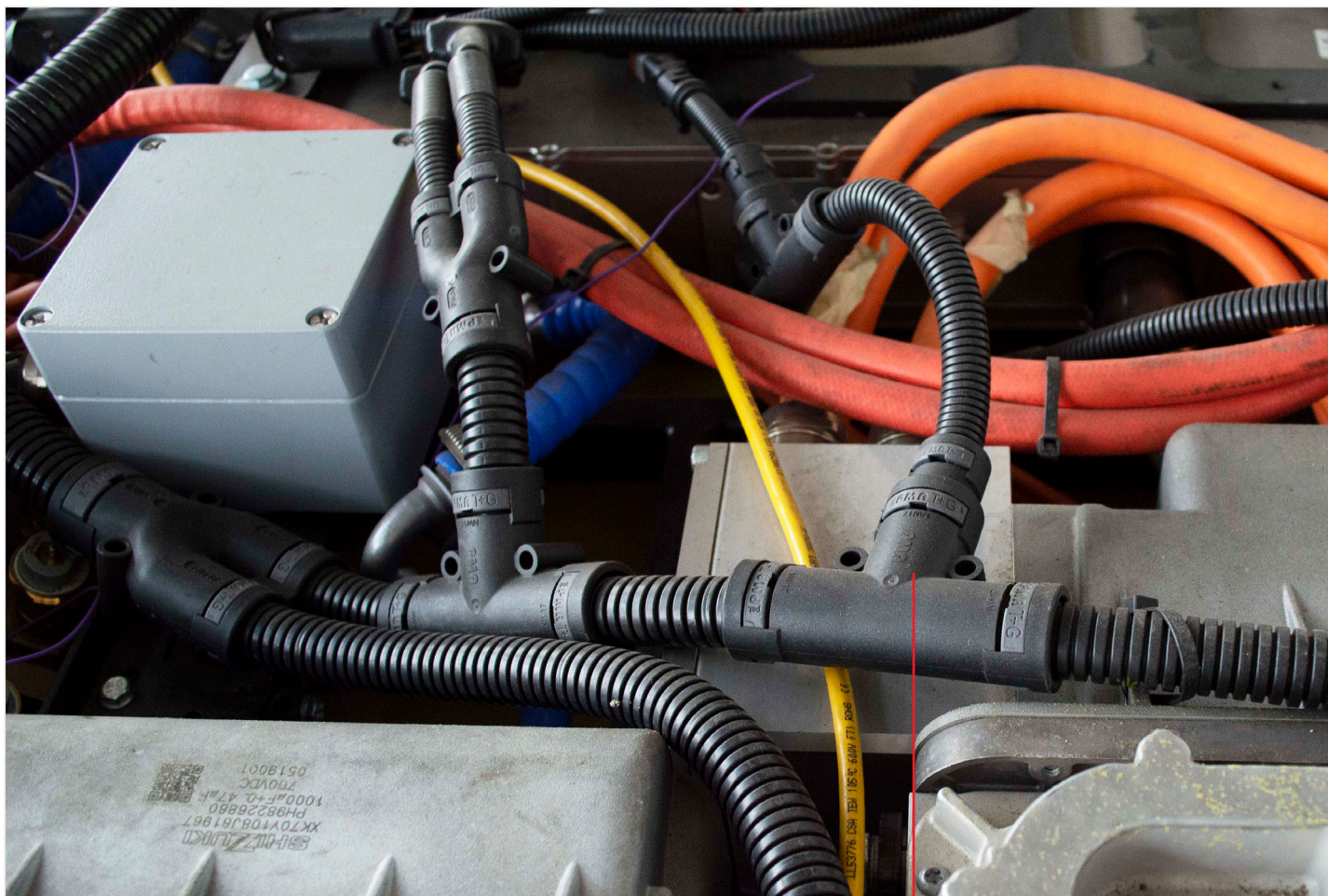
ORBAN TEHNIKA has been a DOK-ING partner for more than 20 years. Davorin Orban from ORBAN TEHNIKA: "As a long term partner of DOK-ING we have participated in the development and design in all their self-propulsion machines employing the latest PMA cable protection solutions."

Protecting the remote-controlled KOMODO from electro-magnetic interference

The proven PMA EMC System provides high-grade shield for protection against electromagnetic radiation combined with mechanical cable protection.



As the whole UGS is remote controlled, PMA EMC protection inside conduits was suggested as the solution both for radio interferences and physical cable protection. F.CU copper braids and BVEMV and BVIMV EMS fittings from PMA help to prevent electro-magnetic interference with the remote control. The PMA EMC fittings are made of nickel-plated aluminium or nickel-plated brass. The braids are designed to provide protection against electromagnetic interferences. The fittings guarantee excellent clamping of the braid and good contact between the shielding braid and the conduit system.



PMAFIX Connectors with **Y&T junctions** to connect complex cable protection solutions in machinery

As another result of the collaboration between DOK-ING and ORBAN TEHNIKA, the latest-generation DOK-ING machines use state-of-the-art three-layer PMA XSOL conduits from ABB.

The PMA® XSOL conduit is the perfect solution for DOK-ING requirements for the harsh environments in which the machines operate. Conduits have to be flexible, compression and UV resistant and have

good fire safety characteristics. The highly flexible PMA XSOL multilayer conduit provides very good weathering resistance and very good mechanical strength.

For DOK-ING, PMA cable protection is the perfect solution for operations in harsh environments

With high impact resistance even under extreme conditions, such as low temperatures and low humidity, the PMA XSOL is a conduit suitable for very demanding machinery applications. The specially formulated polyamide 12 on the outer layer, allows PMA's XSOL conduit to meet all these requirements.

Moreover, when employed as the solution to complex machinery protection tasks, PMA's BVTR and BVYR type connectors make a vital contribution to the smooth operation of high voltage and emergency power systems.

PMA XSOL Multilayer conduit is a very flexible UL recognized conduit ideal for long-term external applications





With its PMA® cable protection product range, ABB offers an extensive portfolio of conduits, fittings and accessories for a wide variety of markets and applications.

ABB PMA and ORBAN TEHNIKA

As a longstanding successful partner of ABB PMA, ORBAN TEHNIKA is a key distributor of high-quality electromechanical components within Europe for the most demanding industries such as railways shipbuilding, robotics and infrastructure. ABB PMA has been a reliable ORBAN TEHNIKA partner for protective conduits and fitting systems for more than 20 years.

DOK-ING

DOK-ING is an engineering powerhouse for heavy-duty robotics and autonomous systems. The company is an international market leader in over 40 countries globally. With its headquarters in Zagreb Croatia, DOK-ING also has offices in North America, Africa & Asia. In more than 30 years of operating in this commercial sector, the company has been recognized for changing the industrial landscape with its innovative approach and has won many international “commercial and industrial” awards in innovations and technology.

<https://dok-ing.hr>

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