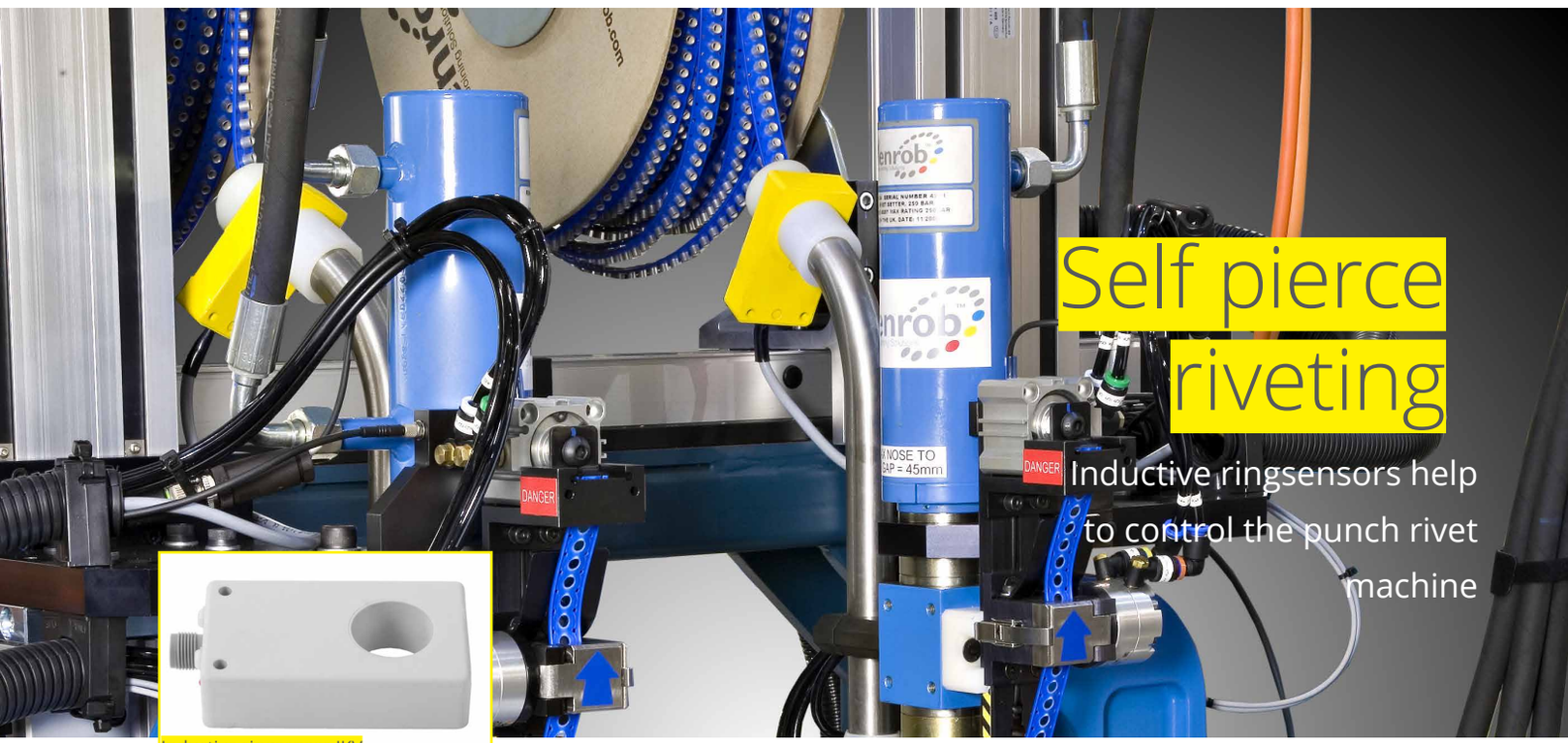

Self pierce riveting

Inductive ringsensors help to control the punch rivet machine

Inductive ringsensor IKV

Punch rivet machines are used in various different branches of industry. Punch riveting enable a very strong mechanical fastening and have become indispensable in the automotive sector. Approx. 1800 punch rivets are used here in a single vehicle. But punch riveting is not only used in the automotive industry but also in many other sectors where aluminium is processed.

Because the feeding of punch rivets is automatic, a renowned supplier of punch riveting solutions uses Proxitron ring sensors. This punch rivet machine is used to assemble cable channels for wind turbines amongst other things. Elements of extruded aluminium are joined together in this manner.

The rivets are supplied on a plastic strip in rolls. Proxitron ring sensors report the approaching end of the rivet rolls so that a new rivet roll can be inserted thus preventing scrap material due to rivets being missing. The output of the ring sensor operates statically, which means the output is switched as long as a metallic object is in the aperture. When objects fall through the ring sensor quite quickly the output pulses can be very short. The optional pulse extension acts as an adjustable switch-off delay and enables reliable detection even with very short dwell times for the connected signal processing.

The sensitivity is adjustable. The nominal sensitivity is related to a ball made of steel (St37), as this represents the most difficult type of object for the ring sensor to detect. With needles or wires, significantly smaller diameters can be detected. The sensitivity is reduced with brass, aluminium or copper material. The mounting of the sensors in series with small distances between the sensors is possible with the offset oscillation frequency versions. Proxitron is one of the few suppliers offering ring sensors with an opening diameter of max. 270 mm. The smallest ring sensor in the product range has an aperture of 10 mm diameter.

At a glance

- Pulse extension option
- Can be fitted in rows
- Stackable
- High quality plastic housing
- Detection of nails, screws, etc.
- Part counting
- Simple installation

Options

- NPN output
- Normally closed version
- Numerous cable and plug variants
- Customer-specific solutions
- Analog output

Technical data IKV 025.23 G

- Minimum object size: 4mm Ø (steel ball)
- Max. target velocity: 60 m/s
- Output: PNP normally open
- Operating voltage: 10 - 30 V DC
- Housing material: Plastic
- Ambient temperature: 25 - 70 °C

ab018e 04/2017