



MONITORING SYSTEMS FOR

WELDING ELECTRODES

Important quality prerequisites for welding robots are the monitored positioning of components and their secure location at the welding station. This is the only way of guaranteeing that the welding point will be correctly positioned. In the modern production process, sensors provide data on the state "open" and "closed" and, where necessary, the working clearance stroke of the welding electrode. This information is used to automatically control the welding process.

Pepperl+Fuchs offers a "tailor made" the welding operation! solution for both current welding systems – the "C" and "X" electrode forms.

NBN3-FCS7-3E2-2V1 for the C electrode





Our sensor concept can be installed quickly and economically with just 2 screws. Electrical connection is by means of M12 x 1 plug connection. The monitoring module sensor peripherals can be flexibly adjusted to different electrode setting angles to completely satisfy your requirements.

- One LED indicator and one pnp N.O. output per sensor
- 2.4 mm assured operating distance
- 10 V DC ... 30 V DC operating voltage
- Mechanical and electrical resistance to welding

Technical features that are convincing!





PRECISION WITH THE

WELDING GUN SENSOR

Save costly reworking due to faulty studs!

The welding gun sensor monitors correct welding of the studs. Bending and breakages are detected immediately.



CONSISTENT QUALITY WITH

THE WELD TIP SENSOR

OBZ-30GK-E2-V1

You need a consistent, accurately defined electrode form, to achieve high welding quality. With each welding operation the shape of the electrode changes slightly, so that after an individually defined number of welding points, the electrode must be redressed to its original form. The optical "Weld tip sensor" from Pepperl+Fuchs automatically checks the quality of the machining. Non-machined and poorly machined tips, due for example to a broken cutter or bent electrode arm, are directly detected. Thus immediate intervention is possible and costly and tedious re-working is avoided.

Each welding point is just like any other!

Welding-resistant sensors

Pepperl+Fuchs is your supplier for welding-resistant sensors with and without reduction factor 1. Sensors with reduction factor 1 or K-factor detect a variety of metals, such as sheet steel and aluminium components used in basic construction - and at the same distance. For these applications we offer cylindrical sensors in the configurations M12, M18 and M30, for embed-

These products perform convincingly, due to their special characteristics:

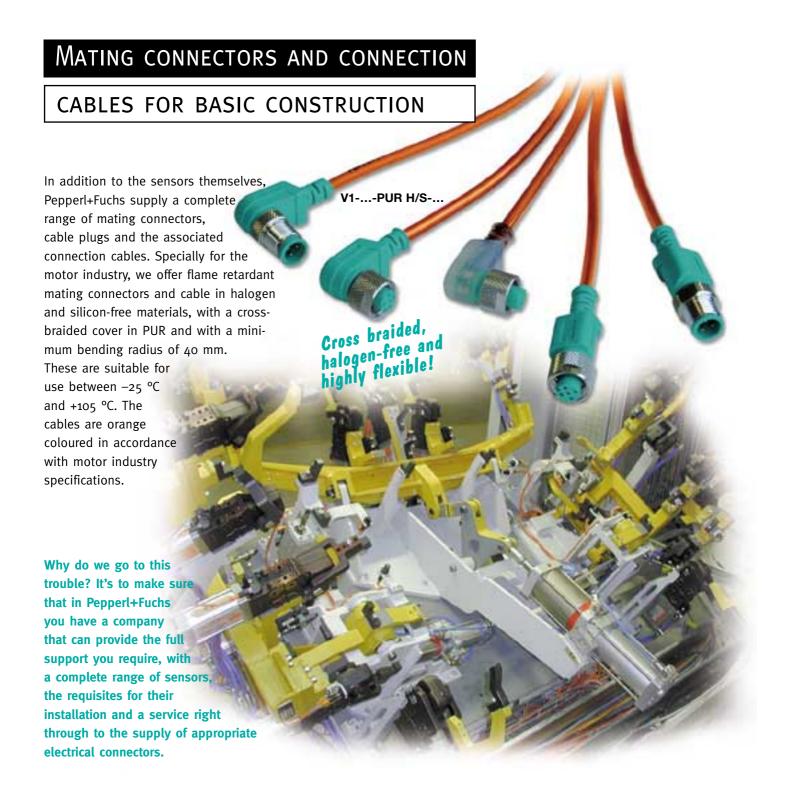
- Electromagnetically resistant to external fields in welding operations
- Mechanically resistant to welding spray, thanks to a Teflon coating
- Reduction factor 1 for the same operating distance on all metals



We also provide welding-resistant standard sensors in square-shaped housings:

Series	Operating distance	Dimensions (H x B x L)
F29A	4 mm, non embeddable	(9 x 10 x 27) mm
VariKont L	15 mm and 20 mm, embeddable 30 mm, non embeddable	(40 x 40 x 55) mm
VariKont	20 mm, non embeddable 40 mm, non embeddable	(40 x 40 x 118) mm (55 x 55 x 118) mm





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