

TAKE FOUR

The new evolutionary stage of micro-switches- with four essential unique selling points that make the difference. For even more efficient and quality-assured production

MOTIVATION

When developing the TAKE FOUR microprobe, we were guided by our customers' requirements for high-precision production of miniature components. We placed particular emphasis on two goals:

- **Simple design that leads to robustness and the highest quality**
- **Use in confined spaces in demanding environments.**

That's why TAKE FOUR consists of just two components connected with a high-tech adhesive and works efficiently and safely where millimeters are at stake.

Albert Wasmeier, long-standing managing partner of RAFI GmbH, says of the new micro switches from creative automation:

"At RAFI, we have successfully developed and marketed numerous microprobes. With the TAKE FOUR, creative automation is now launching a miniaturized pushbutton that performs on a par with or better than larger pushbuttons and also offers price advantages."



Willy Settele, CEO creative automation and Albert Wasmeier

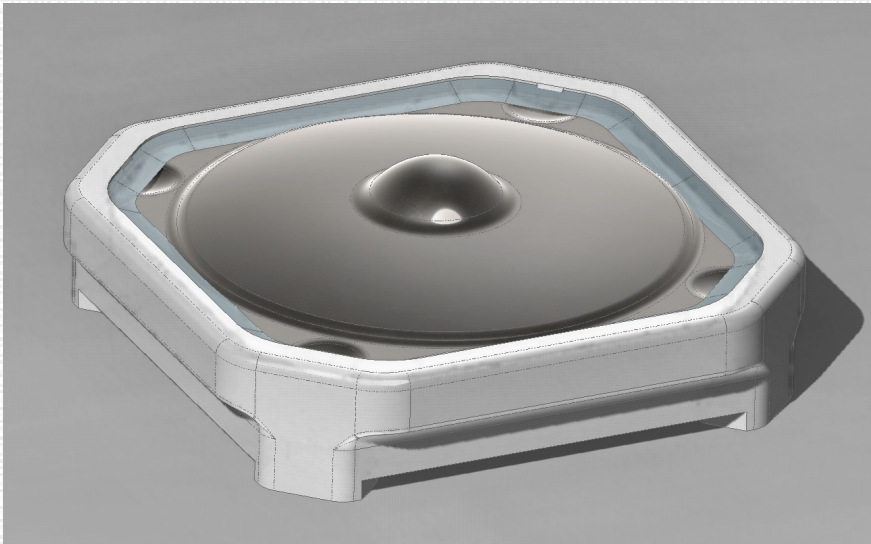


Smaller than a match head: the TAKE FOUR microswitch

UNIQUE SELLING POINTS

TAKE FOUR IS PARTICULARLY CHARACTERIZED BY THESE FOUR UNIQUE SELLING POINTS:

- **Miniaturized size 4.5x4.5x1.3 [mm] with patented internal contacting for SMD mounting**
- **Certified service life of 1 million actuations with very low copy dispersion**
- **Three types with three different actuating forces, optimum haptics and tactility with 0.25 [mm] switching travel and 4.5.6 [N] actuating force**
- **Waterproof and dustproof to IP65**



INNOVATIONS THAT MAKE TAKE FOUR STAND OUT

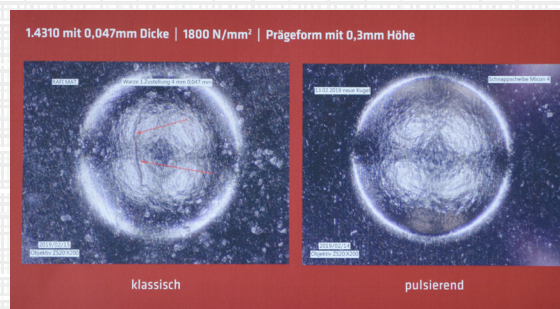
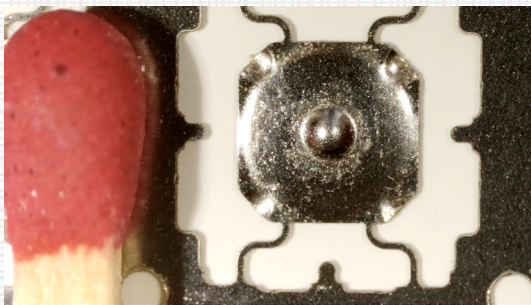
Case back

The case back is produced in an injection mold with 24 cavities. Two gold-plated balls are fed into each cavity and injected. The balls transfer the actuation directly to the circuit board. After the injection process, each component is quality-checked using Vision Control.



Snap domes (axial spring)

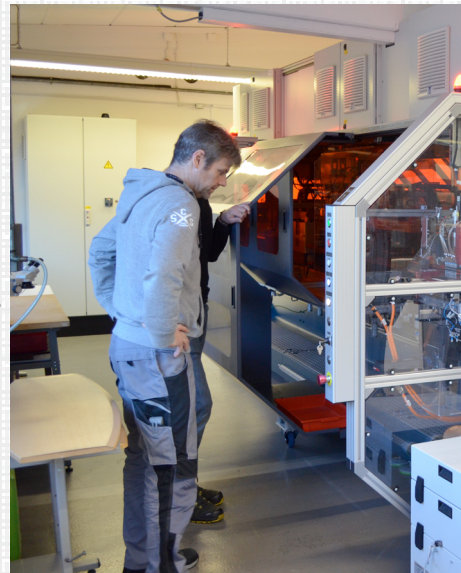
- The requirements for the snap domes cannot be met by any conventional manufacturing process. The hard and thin material (1800N/mm², 0.05 [mm]) cannot be formed without cracking.
- With the patented pulsation forming process developed by us, production with high process capability is possible



Assembly system

For the series production of the TAKE FOUR, we have taken all conceivable precautions for 0 ppm production, with an annual output of 40 million parts.

- All necessary operations, from feeding and assembly to testing and packaging, are carried out in linear stations.
- Parts are transferred on an XTS system with magnetic movers from Beckhoff. The 100% inspection of the components is carried out with nine cameras for the geometric inspections and a measuring station for the F/s inspection and the switching resistance measurements.



Areas of application - TAKE FOUR for SMD assembly on printed circuit boards

The TAKE FOUR microswitch is suitable for a wide range of applications. Thanks to its miniaturized design and internal contacting, the pushbutton is designed for demanding applications where every millimetre of space counts.

The TAKE FOUR is particularly suitable for applications in:

- Automotive industry
- Mechanical and plant engineering
- aircraft construction
- medical technology and
- wherever a function button is located behind a flexible operating foil

DISTRIBUTION

creative automation holds all rights to the TAKE FOUR micro switch. For worldwide distribution, we rely on cooperations and partnerships with suitable interested companies. Please contact us!

creative automation is an innovative manufacturer of modular machines and systems for punching and forming mass-produced metal parts. Our products are specialized for small parts made of steel or non-ferrous metal with material thicknesses of 0.03 - 1.5 mm. For over 30 years, we have been developing solutions primarily for electronics, medical technology, vehicle construction and precision engineering applications. Today, creative automation has a modular system of high-performance precision machines and systems for punching, bending, stamping, drawing, feeding, assembling, testing and packaging, which are used by many renowned companies.

We use our modular system for your specific requirements and develop individual solutions for your production with our diverse know-how, our innovative strength and our own quality standards.

On request, the creative automation team will support you with the fundamental questions of product development and all the important parameters of the part.

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