



REED SWITCHES

Reed switches are binary contactless sensors that nowadays have a very wide range of application. The reed technology allows a contactless switching of an electrical signal or closing an electric circuit with the help of a magnetic field. Due to its sealed construction, it is possible to use reed switches in in all conceivable environmental conditions. Brake fluid level monitoring, monitoring of the tire pressure or safety monitoring of the doors of household appliances are only a handful of examples where reed switches can be used.

Two thin, flexible, ferromagnetic metal wires or blades - the reeds - positioned slightly apart in a hermetically sealed glass bubble are acting as switch contacts. A defined external magnetic field acts on the ferromagnetic switching contact - the reeds acting as a switch. A permanent magnet or a coil usually provides the required magnetic force to move the reed and close the contact.

Advantages of the reed technology

- » Non-contact, low-wear switching operation
- » Long service life
- » High switching frequency
- » Low-cost alternative to electronic switch
- » Maintenance free

To ensure a long service life, the contact area of the switching reeds is coated with a layer of different metals, on top usually rhodium, ruthenium, and sometimes tungsten.

The greatest influence on the service life of a reed switch is the electric load requirement. Reed switches operate in a hermetically sealed atmosphere. If only signal loads or low currents or voltages are switched, a whole lot of switching cycles are achievable.

The contact resistance of the reed switches is generated by the ferromagnetic blades and all connection elements. Internal contamination of the paddle surfaces, chemical seeping, inhomogeneous mechanical or electrical properties, or even defects in the blade surfaces can be the cause of contact resistance variation and are therefore the cause of failure. Thus, the surface quality, the homogeneity of composition and processing represents a decisive factor in the choice of products.



How do our products stand out from those of the competition?

- » Pioneering wire solutions for the energy transition
- » From smelting to wire from one single partner.
- » Customized products to meet the highest requirements.
- » Consistent and uniform microstructure, homogenous electromagnetic properties.
- » Perfect surface quality for defect-free reeds.
- » Environmental friendly and most advanced production facilities.
- » Worldwide operation with the necessary logistics and local sales hubs
- » Pioneering wire solutions for the energy transition

Used material grades: glass-sealing alloys with controlled TEC

Product portfolio

Specifications

Used material grades: iron/nickel alloys
Typical diameters: 0,2 – 1,30 mm
Typical tensile strength: 450 - 600 N/mm², soft annealed,
600 - 1000 N/mm², annealed
Surface clean, without residues

Quality Control

EN ISO 9001:2015

For detailed information regarding our certifications, visit our webpage www.voestalpine.com/wire

