

Proximity Sensor Internal Contact Performance



Proximity Sensor Application Notes

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HSI Sensing takes great care when selecting the internal reed switch plating material of a proximity sensor to ensure that it functions properly in the final application. Each material has its own unique set of benefits that affect the way a proximity sensor performs.

HSI Sensing offers proximity sensors with these internal contact options:

R – Rhodium

- A noble metal contact material intended for low to midrange power level circuits (.01 watts to 25 watts)
- High durability and wear resistance
- Mechanically capable of up to billions of cycles under normal operating conditions
- Rhodium has a higher power rating than Ruthenium
- HSI recommends Rhodium contacts for applications that remain closed for long periods of time

D – Durel

- Diffused copper plating paired with a treated 52 alloy that HSI Sensing designates as Durel
- Intended for very low power level circuits (less than 1 watt)
- Can go into the millions of cycles
- HSI recommends Durel contacts for applications that are in the normally open state

W – Tungsten

- Solid Tungsten contacts
 - Highest power level contact material available (3 watts to 200 watts)
 - High voltage rating
 - Rated for switching inductive and capacitive loads
- Coated Tungsten contacts
 - High power level coating (1 watts to 50 watts)
 - Highest voltage rating
- High durability and wear resistance
- Intended for midrange to high power level circuits
- Tungsten contacts within a vacuum atmosphere can switch up to 200 Watts, 10,000 Volts DC, or 3 Amps
- Can go into the millions of cycles
- Tungsten contacts within a pressurized gas atmosphere can switch up to 100 Watts, 500 Volts, or 3 Amps
- HSI recommends Tungsten contacts for applications that remain closed for long periods of time

To ensure that you are getting the best plating or coating for your application, please consult individual product specification sheets and then HSI Sensing staff. Actual contact performance may vary depending on the switching power load. By selecting the appropriate switch, wire, and housing, HSI Sensing can custom engineer proximity sensors that achieve higher voltage ratings to match your desired voltage specifications.