

Proximity Sensor Components



Proximity Sensor Application Notes

Proximity Sensor Components

HSI Sensing uses many standard components in the manufacturing of proximity sensors. HSI Sensing provides engineering services to design custom components tailored to your specific application needs, or we can build based upon your existing component designs.



Housings

Proximity sensors can come in a wide variety of shapes and sizes.

Shapes

- Rectangle
- Tubular
- Square
- Threaded
- Flanges
- Overmolded to custom fit specific application needs



Materials

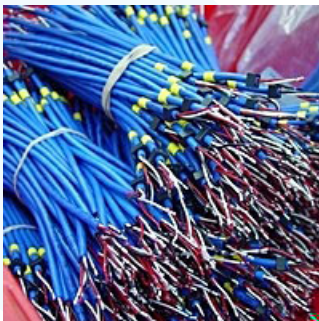
HSI Sensing uses various materials for external housings. These include but are not limited to:

- Plastic – ABS, Valox, HySol, Peek, Plaskon 7, Xydar, Lexan, Ryton, Fortron, Delrin, Propionate, Epoxy Glass (Phenolic),
- Steel – Sintered, 300 Series Stainless
- Aluminum
- Brass

Accelerated Design

HSI Sensing has the ability to rapidly prototype and machine housings on a limited-run basis to help accelerate the design process.

Wire/Cable



HSI Sensing uses many different types, lengths, gauges, and colors of wire and cables. We utilize both industry standard and specialty wire types and materials. Contact HSI Sensing custom engineering staff for more information regarding available options.



Depending on application requirements, the following types of wire can be utilized: Stranded Insulated Wire, Non Insulated Solid Wire, or Multi Conductor Cable. Gauges of wire range from 16 AWG – 30 AWG.

Pins and Connectors

HSI Sensing can install various types of pins, connectors and terminal blocks. Contact HSI Sensing custom engineering staff for more information regarding available options.

Potting

HSI Sensing can use a variety of epoxy materials depending on your application.

Materials

- **Silicone** – a soft potting material to protect the internal components from shock, vibration, thermal expansion, and moisture.
 - Dow Corning
 - GE Silicones
- **Hard Epoxy Resin** – a hard potting material for security and bonding strength to secure wire to housing and seal out the environment
 - Dymax
 - Emerson and Cuming
 - Royal Adhesives
 - Armstrong
 - Aremico
 - 3M
- **Adhesive** – holds components in place and is used to seal out the environment
 - Loctite
 - Permabond
 - 3M
 - Dymax UV Adhesives



Solder



HSI Sensing meets J-Standard solder requirements on requested applications.

HSI Sensing utilizes RoHS compliant Pb (lead) free solder (Sn 96.5, Ag 3.0, Cu 0.5). We also use other types of solder when requested, such as the following: 60/40 Sn/Pb, 90/10 Sn/Pb, Sn 95, Sn 96



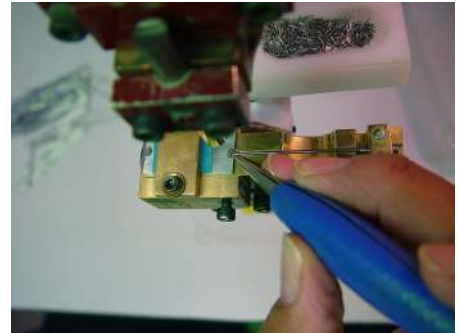
Heat Shrink, Tubing

HSI Sensing works with more than 20 kinds of heat shrink and tubing materials for insulation or cable/wire markers. Contact HSI Sensing custom engineering staff for more information regarding available options.

Welding

For high-temperature applications, HSI Sensing recommends using a welding sleeve to bond the wire and switch together.

HSI Sensing uses ultrasonic welding to press housings and lids together on requested applications. and has the capability to weld surface mount bars and tabs to proximity sensors.



Packaging

HSI Sensing uses the best possible packaging to ensure that orders arrive in pristine condition. Some of our packaging options for proximity sensors are:

- Tape and Reel
- Foam Blocks
- Zip Lock Bags
- Boxes



Printing and Engraving

HSI Sensing can print or engrave anything that will fit on the application housing including, numbers, letters, and symbols. Examples of our capabilities include:

- Ink Jet Printing
 - Blue
 - White
- Laser Engraving
- Mechanical Engraving



Lead Free

HSI Sensing will utilize lead free RoHS compliant components whenever possible. See our specification sheets for details.

UL, CSA, ATEX, Outside Labs

HSI Sensing can utilize outside labs to certify our products. We have customers with multiple certifications and can accommodate external audits from the certifying entity. Contact HSI Sensing custom engineering staff for more information regarding certification and outside lab testing.