

# ***Chemically Resistant Connectors***

***FOR USE IN EXTREME ENVIRONMENTS***



**WHEN RELIABILITY MATTERS  
CONNECT TO CONFIDENCE**

Sulfuric acid corrosion in many materials is dependent upon the acid concentration. Many materials that will not corrode when in contact with 98% concentrations of sulfuric acid may suffer significant corrosion at lower concentrations. Stainless steels are one of the material groups that can withstand very high concentrations of sulfuric acid (93% - 98% concentrations) but suffer significant corruptions at lower concentrations.



*stainless steel sensor body showing the effects of sulfuric acid corrosion*



*remnants of a CTC A2A connector where the polycarbonate has completely disintegrated and the stainless locking ring has been seriously eroded due to the sulfuric acid*

For situations requiring exposure to lower concentrations of sulfuric acid, CTC has developed PPS connectors with no exposed metal.

PPS connectors, like CTC's **A2S** and **A3S**, have an insert, backshell body, and locking ring all made from polyphenylene sulfide.



### **A2S CONNECTOR**

*High temperature, two-socket MIL style, PPS molded connector and locking ring, 392 °F (200 °C) maximum temperature*



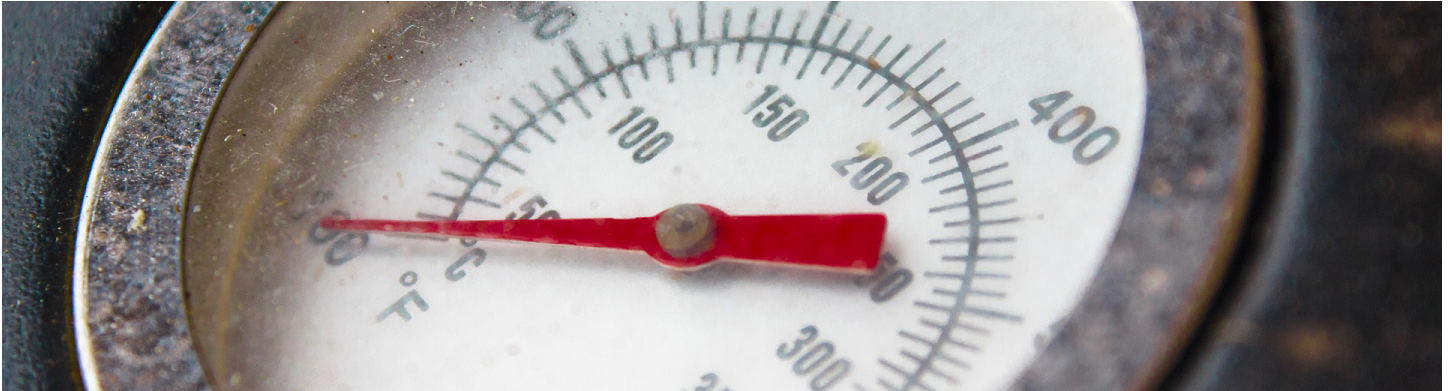
### **A3S CONNECTOR**

*High temperature, three-socket MIL style, PPS molded connector and locking ring, 392 °F (200 °C) maximum temperature*



## What are the Benefits of Polyphenylene Sulfide?

Polyphenylene sulfide is a high performance thermoplastic material that exhibits extreme solvent resistance up to 200 °C (392 °F). Actual service temperature of PPS is up to 218 °C (424 °F). The inner sealing O-ring of the connector is made of Viton™, another acid resistant polymer that displays excellent flexibility at higher temperatures.



PPS was selected for this application because it offers the broadest resistance to chemicals of any available advanced engineering plastic, including bases and acids, and also offers inertness to steam and hydrocarbon based solvents. A very low coefficient of linear thermal expansion makes PPS products ideally suited for the machined components required for CTC's connectors. In addition, PPS products exhibit excellent electrical characteristics that are inherently flame retardant, which make them ideal for use in harsh industrial environments.

