



**TELEDYNE  
INSTRUMENTS**

*Advanced Pollution Instrumentation*

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*Service Note*

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**REMOVING MOV's FROM API ANALYZERS**

**SCOPE:**

This service note addresses the removal of MOV's from new API analyzers.

**BACKGROUND:**

API analyzers have historically been built with Metal Oxide Varistors across all three pins of input power. These MOV's serve the purpose of surge suppression in over-voltage line situations. They act to suppress surges by breaking down internally at high line voltages. This causes a short circuit between the Hot or Neutral and the Ground wire on the AC inlet. If the surge lasts too long, the MOV's will fail, sometimes catastrophically. API has changed our method of handling voltage spikes – partly to meet CE Mark certification requirements. We now install “spark gap” devices. These are devices which allow voltage spikes to “arc” internally between the three input pins, while limiting current through the power supply.