

# API-Cecom Group *n'fo*

## Technical & Application Note A177

Application: Isolate and split the signal for furnace SCR control

Type of Company: Specialty Material Manufacturer

Location: New Hampshire

**Problem:** The customer is a manufacturer of high density ultrahigh temperature materials. These specialty metals and compounds are used in an array of defense and industrial manufacturing applications that require high temperature materials. The customer uses an ultra high temperature furnace for the manufacture of these materials. The process requires them to use two banks of 3 SCR's (one SCR bank for the top heating elements and the other SCR bank for the bottom heating elements) to fire the high amperage transformers for the furnace heating elements. The temperature controller does not have enough current drive capability to drive both banks of three SCR's. They require a unit that will split the temperature controller signal and have enough drive for each bank of SCR's.

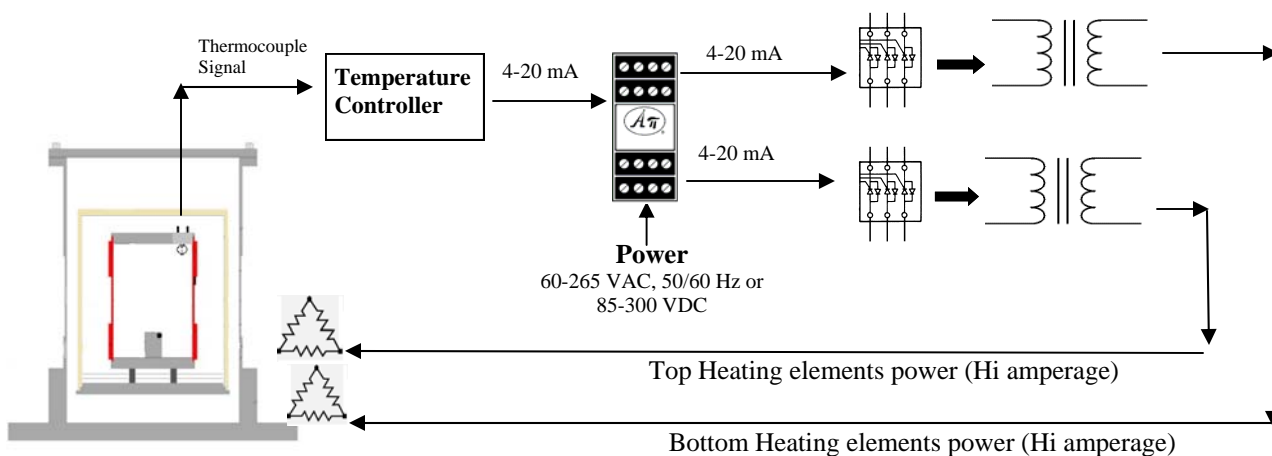
*Note: for additional information on this process see <http://en.wikipedia.org/wiki/Furnace>*


**Solution:** API furnished the customer an APD 4393. The APD 4393 is a factory calibrated unit that accepts the 4-20 mA signal from the temperature controller and gives them two 4-20 mA output signals. Each output signal has 1000  $\Omega$  drive capability which gives enough drive for controlling the 3-phase SCR power modules in the upper and lower zones independently. The unit also provides full 3 way isolation so the end result is more accurate control of the power applied to each temperature zone.




APD 4393

Iso-Splitter



**FREE FACTORY APPLICATION ASSISTANCE**  
 Contact  Customer Service  
 Where People Answer The Phone  
[www.api-usa.com](http://www.api-usa.com)  
 800-942-0315



Revised 04/2013