

Monitor autoclave vacuum to PLC

APPLICATION C176

Type of Company: [Manufacturer, Composite Materials](#)

Location: [Texas](#)

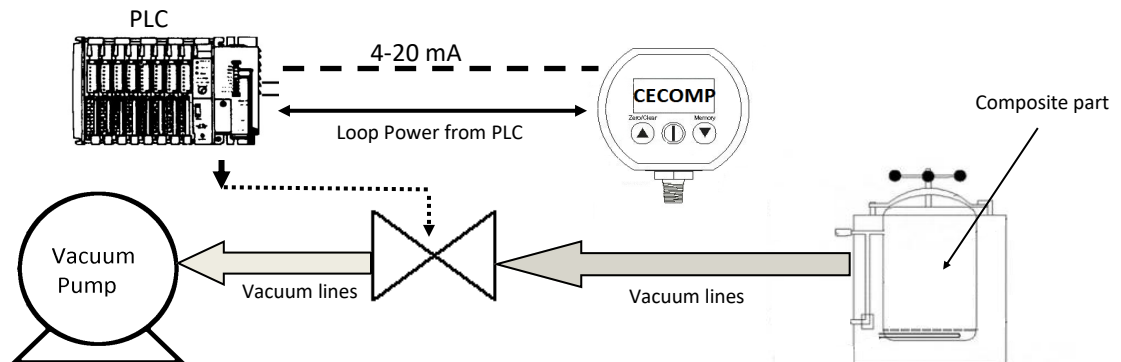
Polymer-matrix composite manufacturing is a multibillion-dollar industry in the U.S. that uses high temperature/pressure process equipment. These “advanced” materials combine the properties of high strength and high stiffness, low weight and corrosion resistance which make them ideal for aircraft and aerospace structural parts as well as sporting goods equipment. After initial molding, the composite material is moved to an autoclave for final forming and cure under heat, vacuum and pressure.



The Engineering Issue

The engineer has the following requirements:

- Monitor the vacuum and send a signal to the PLC for each of 16 vacuum lines to an autoclave.
- If any one of the vacuum lines springs a leak or something happens to that line, close it off so that the “bad” vacuum line will not have an adverse effect on the other lines.



The engineer used a Cecom F16L gauge for each vacuum line. This gives the operator an accurate visual readout of the pressure and a 4-20 mA output signal to the PLC from each line.

Problem. Solved.