Controlling water level in a tower

APPLICATION A134

This customer is a water commission that supplies water to many communities. Water towers pressurize a water supply system for the distribution of potable water, and provide emergency storage for fire protection. The water is stored in standard water towers around the distribution area. The levels and control are handled at the main distribution / pumping facility 20 miles away from the main pumping station, as well as at the water commission control room even farther away.

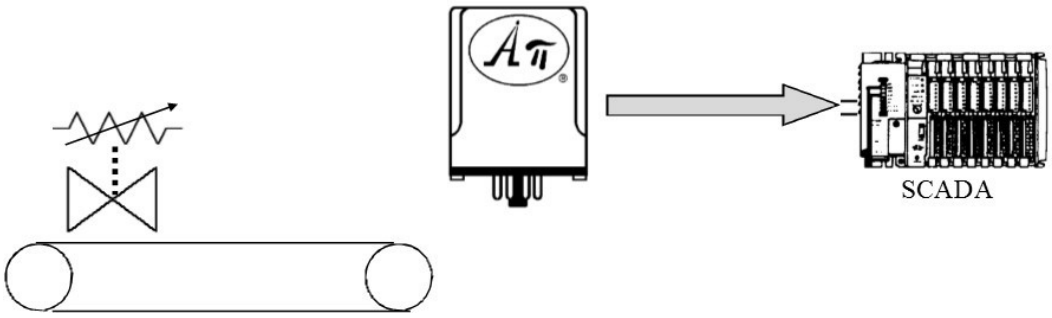
Type of Company: Public Utility

Location: Illinois

By Brandonrush - Own work. Wikimedia Commons.

The Engineering Issue

- The engineer must know the exact position of each valve in each water tower, since all of the tower water levels must be monitored at the main distribution / pumping facility.
- The engineer has already replaced standard linear position feedback potentiometers with precision 10-turn potentiometer on each of the tower valves and needs to convert these position signals to a 4-40 mA signal for the RTU card on the existing HSQ Technology brand SCADA control system.
- They had to be able to “hot-swap” out units to ensure minimum down time.



The engineer used an API 4003 GI with a custom external supply modification. This allows the customer to use a common power supply for all of the various inputs to the RTU card on the SCADA control system. Also, since the unit is a “plug-in” module, it has “hot swap-ability” to minimize down time.

Problem. Solved.