



Excela: Precise Pressure Control in Fire Suppression Tanks



EXCELA™



APPLICATION CHALLENGE:

A manufacturer of firefighting and fire suppression equipment used in industrial facilities faced two challenges with the mechanical switches they had been using to control pressure within fire suppression tanks storing IG-100 nitrogen extinguishing agent.

1. The customer was unable to achieve precise pressure control with the fixed deadband settings as deadband range was limited to the switch model they were using. The customer required pressure in the tanks to be controlled at a specific set and reset point (i.e. deadband) so that the IG-100 nitrogen agent in the refrigeration system could be maintained at an optimal temperature (based on principles of gas laws).
2. The setpoints and deadband settings were susceptible to tampering. It was also not possible for an operator to easily verify current settings unless the device were removed and tested in the instrument shop.

The need for more precise pressure control to achieve optimal nitrogen agent temperature, as well as the prevention of device tampering caused the customer to look for mechanical switch alternatives.

SOLUTION:

UE's patented Excela switch (model 1GSWLL-P16) was an affordable upgrade to the mechanical switch, and solved both customer challenges.

1. Excela offered the customer the ability to adjust the pressure control to a specific deadband value. This precise setting could be adjusted up to 99% of the Excela sensor operating range. As a result, the customer was able to maintain the nitrogen agent at the optimal temperature for better system performance.
2. Excela offered the customer the ability to set a password to prevent device tampering. The password could easily be activated and set from the device menu to prevent unauthorized change of settings, but would not be required for operators to read the current settings on the device display. Device security was achieved.
3. The customer liked the fact that no additional wiring infrastructure was needed to install the Excela electronic switch. The same two wires that were used between the mechanical switch and control panel were used to power and communicate with the Excela electronic switch. The customer found that the upgrading of mechanical switches was an easier, quicker and more affordable operation than previously thought.



Precise Control and
Performance



Enhanced Device
Security



Rapid Upgrade and
Deployment

