



Product	800 Series Pressure Transmitter
Application	Pressure Transmitter Sensing Rupture Disc Integrity
Industry	Chemical

Challenge A chemical plant was using an electromechanical pressure switch to detect the spike in pressure resulting from a blown rupture disc. Due to the functionality of a pressure switch, there is no indication if the pressure switch has failed. The plant personnel would only realize the pressure switch has malfunctioned once the process pressure reached the threshold needed for bursting the rupture disc and the pressure switch failed to signal the pressure spike as intended. The engineers decided they needed more information about the pressure at this step in the process so that the ruptured disc could be replaced before it failed completely.

Solution Two 800 Series Pressure Transmitters were recommended for this application; one was installed in-line with the pressure switch downstream of the rupture disc, and the second was installed upstream of the rupture disc. In addition to providing constant monitoring of the process pressure, the analog signal from the first unit verifies the transmitter's ability to detect pressure changes. Similarly, the second unit provides constant monitoring of the process pressure prior to the rupture disc; this allows the engineers to better understand and prevent events which burst the rupture disc. Furthermore, the switch output of the second unit is used to alert plant personnel of increasing pressure so that an operator can react and open a valve to decrease system pressure and reduce the likelihood of the rupture disc bursting. On the other hand, the electromechanical pressure switch provides no indication of its ability to detect and respond to a pressure spike. However, an electromechanical pressure switch is still a recommended redundant sensor for the 800 Series Pressure Transmitter.