



Product	805PT Pressure Transmitter & 805QS Pressure Switch-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 An 805PT Pressure Transmitter and 805QS Pressure Switch-Transmitter were recommended for this application; the 805PT was installed in-line with the pressure switch downstream of the rupture disc, and the 805QS was installed upstream of the rupture disc. In addition to providing constant monitoring of the process pressure, the analog signal from the 805PT verifies the transmitter's ability to detect pressure changes. Similarly, the 805QS 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 805QS' switch output 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 805PT Pressure Transmitter.