



APPLICATION NOTE

EXTENDING TIRE LIFE WITH ELECTRONIC PRESSURE SENSING SYSTEMS

PROBLEM:

Tires represent the second highest operating expenditure for the trucking industry and the number one maintenance cost for fleet owners. Low air pressure creates a higher rubber-to-road ratio for that tire, which has a direct impact on fuel economy across an entire fleet. Tire air pressure affects retread life as well. If retread tires are over or under inflated the newly molded rubber can become unstable and break its bond to the tire casing much sooner than its factory rated lifespan. In fact, the American Trucking Association reports that 90 percent of all rubber scraps found on U.S. highways can be traced to under inflated tires.

Mechanical tire pressure systems continuously pump air into the air supply line system at a pre-set pounds per square inch (PSI) ratio, regardless of a loss of pressure in a tire. This constant line pressure puts undue wear and tear on seals, lines and wheel ends, increasing the threat of system failure. Mechanical tire pressure systems do not have the ability to 'sense' an impending tire failure.

THE SOLUTION:

Electronic tire pressure systems that use advanced pressure sensors from Sensata Technologies provide fleet owners much more control over the system, while providing continuous tire pressure monitoring and driver alerts. Pressure transducers play a key role in these systems by continuously monitoring and communicating the air pressure 'status' throughout the entire systems.

By signaling the on-board air compressor to increase or decrease pressure, turn on or off, and specify which tire needs an adjustment, pressure transducers enable the electronic tire pressure system to reduce the constant air demand common in mechanical tire inflation systems. Relieving this constant pressure protects seals and wheel ends from excess heat and contamination caused by air leakage and the subsequent loss of bearing grease. Real-time monitoring of individual tire pressure connected to the dashboard controls can also alert the driver to take action before a tire goes flat or fails in some other way.

Product specs available here: <http://www.sensata.com/files/ipt-60cp-series.pdf>

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