



APPLICATION NOTE

SENSORS KEEP FORKLIFTS RIGHTED AND PRODUCTION STEADY.

THE PROBLEM:

The Construction-injuries.com legal resource website reports 26 percent of all forklift accidents are a result of a lift tipping over. In the fast paced warehouse environment, it is easy to make mistakes that compromise safety. A common example of this would be operators unknowingly lifting loads that are simply too heavy to be handled properly. Heavy loads hoisted high above the warehouse floor will affect the forklifts center of gravity leading to an increased risk of tip over. Load cells are available to warn lift operators of heavy and hazardous loads; however, these systems are often very expensive and over designed for standard warehouse use. As a result, their use is often reserved for legal weighing operations that require very accurate load measurement.



THE SOLUTION:

A more cost effective approach to monitoring the load carried by forklifts includes using pressure sensors from Sensata Technologies in conjunction with other devices to measure load and machine tilt. By monitoring these parameters, a microcontroller can monitor the lifts center of gravity thus alerting the driver to any unsafe conditions.

Another benefit of these sensor systems is that they can be added to any existing forklift utilizing hydraulic masts. The pressure sensors are tied directly into the hydraulic lines of the lift. This method of load measurement can accurately identify load weight to within +/- 30 pounds, which is ideal for industrial environments.

With the increasing implementation of warehouse management tools, the infrastructure for these sensors is already being put into place. Existing sensors beyond those listed above can also add new dimensions of risk detection to industrial equipment. Connecting the speed sensor to the control unit adds parameters such as turning too quickly with a large load, enabling even more accurate, predictive warnings to be sent to the operator. Retrofitting or designing these low-cost sensors and control units into lifts brings much needed safety at a fraction of the cost of more expensive load cell systems.

Product specs available here: sensata.com/pressure

ABOUT SENSATA TECHNOLOGIES:

Sensata Technologies is a leading designer and manufacturer of sensors and controls for leaders in the global automotive, appliance, aircraft, industrial and HVAC markets. Our sensing and protection solutions improve safety, comfort and efficiency for millions of people every day.

Sensata has business and technology development centers in Attleboro, Massachusetts, Holland and Japan and manufacturing operations in Brazil, China, Korea, Malaysia, and Mexico, as well as sales offices around the world. Sensata Technologies employs approximately 5,500 people worldwide.

For more information, please visit our web site at: www.sensata.com.

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