

# case study



## **Quick switch. How an automotive plant avoided a production crisis with the flip of a switch.**

Time is money for auto manufacturers, especially when you consider that a single faulty piece of equipment can cause production downtime valued at \$10,000 per minute. Such was the case recently when an automotive manufacturing plant faced frequent disruptions to its assembly process due to a faulty safety switch on a

production area door. The plant sought a permanent and effective remedy, and looked to Honeywell Sensing and Control (S&C) to narrow its very small margin for error.

## **Honeywell**



## Domino Effect

The 260,000 square-foot plant produces more than 400,000 cars per year for much of North

America. Plant operations cov-

er every part of the production process, including stamping, welding, assembly, painting, testing, and exporting.

Central to the plant is the production line belt, which runs the entire length of the facility at a half-mile per hour rate. The belt carries a car through the production process, from the beginning shell framework to the finished product. Quality, safety, and productivity are top priorities — especially given the scope of plant production and the level of output. If any step is compromised, the entire process — and the car itself — come to a halt.

“We are under immense pressure to make sure the production line is never down for any unnecessary reason,” chief maintenance personnel explained. “This is lost time you can never get back. It’s like a domino effect — even if you put in overtime, the hours are still lost because that gap will affect every production process down the line.”

During routine inspections to address potential production line issues, maintenance personnel identified a problem with the safety latch in the plant’s robotic welding area. For years, the plant used the Allen Bradley Guardmaster® switch to lock the sliding doors in the welding area when production was in progress. Should someone gain access through the interlocked door when the robots were welding, all operations would stop.

However, according to maintenance personnel, the Allen Bradley product’s inability to discern between an open and shut door created instances where the welding door would shut, but plant production would fail to start.

“Because the issue was safety-related, only safety maintenance personnel could override the switch to restart production,” maintenance personnel explained. “The frequent disruptions hindered productivity and frustrated workers.”

## Open and Shut Case

Searching for a solution, plant personnel contacted Honeywell S&C, which determined the force generated by the shutting motion of the sliding doors created a slight “bounce” before they completely closed. Although the bounce was just one-sixteenth of an inch, it was enough to break the safety circuit, causing the switch to recognize the door as open and preventing production from proceeding.

Plant personnel tested a sample Honeywell MICRO SWITCH™ GKLE switch and compared it with the Allen Bradley product. While both switches were identical in terms of electrical behavior, they demonstrated striking differences in timing. The Honeywell solution eliminated the window of ambiguity created when the door bounced, offering precise detection to determine if the door was open or closed. If the door bounced before shutting, the Honeywell switch’s detection capabilities signaled the final ending position of the door, enabling production to continue.

## Successful Switch

The plant is currently replacing all welding area door switches throughout the assembly plant with the Honeywell solution. Although the switch is one small piece of a large process, its role is making a noticeable difference in productivity and operations.

“We’ve turned a major headache into a smooth process,” maintenance personnel noted. “By resolving the welding door issue, we can expect less downtime, higher productivity, and overall faster time-to-market.”

For more information about sensing and control products, visit [www.honeywell.com/sensing](http://www.honeywell.com/sensing) or call +1-815-235-6847. Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

Sensing and Control  
Honeywell  
1985 Douglas Drive North  
Golden Valley, MN 55422  
USA

+1-815-235-6847

[www.honeywell.com/sensing](http://www.honeywell.com/sensing)

004762-1-EN IL50 GLO  
June 2008

Copyright © 2008 Honeywell International Inc. All rights reserved.

# Honeywell