

# Honeywell Pressure Switches: Smart Diagnostic Technology

Technical Note

## Smart Switching. Smart System. Smart Choice.

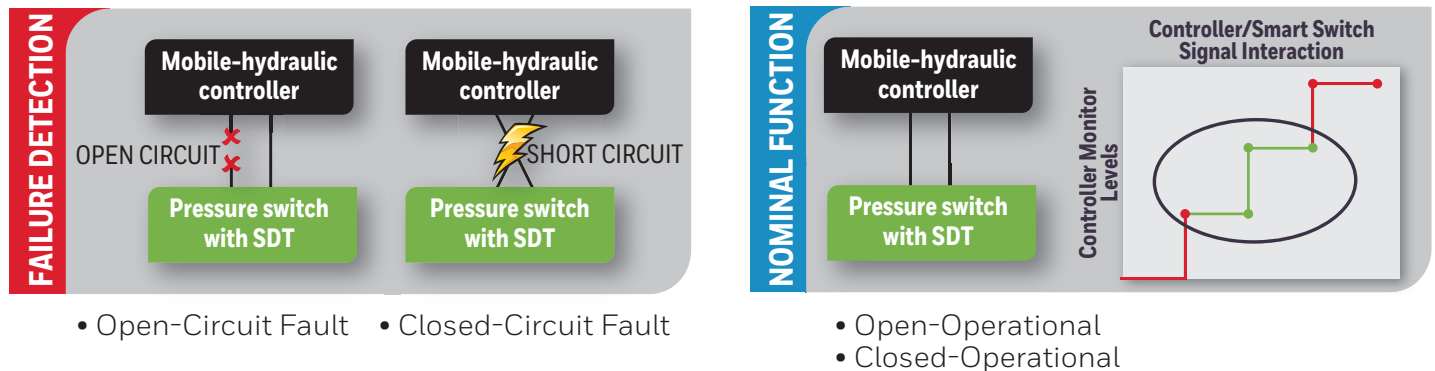
Brake system controllers, CAN hubs, on-board diagnostics, and advancing intelligent vehicle technologies. Transportation and industrial controller development is constantly driving ahead with advanced system architecture to improve value, efficiency, and safety. When a system encounters a fault, it's key to know how and where an issue originated as soon as it occurs. Doing this allows immediate and specific action to be taken to reduce machine down-time and maintenance cost. Fault detection and localized diagnostics of subsystem components is a vital part of the equation to achieve reliable system interaction. Enabling pressure switch sensors with an intelligent topology is a key part of the solution to resolving system failures, and allowing immediate awareness within the control system.

## Linking with Advanced Mobile-Hydraulic Controllers

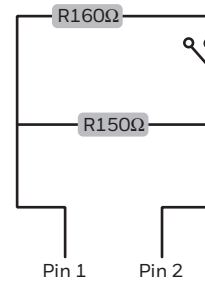
Honeywell pressure switches with Smart Diagnostic Technology are enabling interaction with advanced mobile-hydraulic systems by integrating continuity fault diagnostic circuitry in the form of a resistor topology within the pressure switch. The Smart Diagnostic Technology solution allows a controller to receive and interpret up to four segregated signal amplitudes to perform pressure switch diagnostics and status: open-switch, closed-switch, short-circuit, and open-circuit.

In Figure 2, the failure modes shown are common problems with electrical contact and interfacing issues within a system subjected to real world application. Open circuits, cut wires, worn insulation, electrical shorting, and the list goes on. If a failure sneaks into your system, Honeywell pressure switches with Smart Diagnostic Technology won't let it go undetected.

**Figure 2. Smart Diagnostic Technology (SDT): Failure Detection and Nominal Function**



**Figure 1. Honeywell Smart Pressure Switch Electrical Topology.**



With an initial offering options for 150, 510, and 3k Ohms. Our configurable circuits can be custom tailored to system specific needs. Smart Diagnostic Technology is available across Honeywell's low, medium, and high pressure switch lines, encompassing the portfolio of HP, HE, ME, LE, and LP Series pressure switches.

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### Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is customer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, Honeywell assumes no responsibility for its use.

### **WARNING** **IMPROPER INSTALLATION**

- Consult with local safety agencies and their requirements when designing a machine control link, interface and all control elements that affect safety.
- Strictly adhere to all installation instructions.

**Failure to comply with these instructions could result in death or serious injury.**

### For more information

To learn more about Honeywell's sensing and switching products, call 1.800.537.6945, visit [sensing.honeywell.com](http://sensing.honeywell.com), or e-mail inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

### Honeywell Safety and Productivity Solutions

9680 Old Bailes Road  
Fort Mill, SC 29707  
[www.honeywell.com](http://www.honeywell.com)

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