

Application Note

Limitless™ Wireless Hazardous Location Switch for Valve Position Detection

Used to determine both valve position and state

Background

If it is a liquid or a gas, chances are it has passed through a valve. Valves control the flow of a fluid through a pipe or channel. Some valves have two positions, open or closed. Other valves are used to throttle the flow of the fluid and may change the rate of flow from none to very much and anywhere in between.

Customers that use valves often have the requirement or desire to know exactly what state their valves are in. Are they open? Are they closed? Of course, the valves themselves can be controlled by automatic actuators. If these actuators fail to operate the valves to the correct position, expensive loss of materials and down time may result. Adding a valve position detection system to the valve allows the customer to know exactly what state the valves are in and gives them confirmation that their systems are working as planned. An industry where this is particularly important is the Oil and Gas industry.

However the oil and gas industry has specific requirements because of the classified atmospheres they produce and find themselves in. Classified environments or hazardous locations cannot use standard electronic devices because of the danger of arcing. If an electrical arc occurs within a classified environment, it could potentially create an explosion and an extreme danger to safety.



Solution

The Limitless™ Wireless Hazardous Location Switch, WBX Series is an intrinsically safe device for many position detection applications. It is especially well suited for valve position detection applications. As a limit switch, it is easily positioned on the customer's valve body and actuation devices. The WBX can be easily used to retrofit existing valve installations that require position or state indication where they did not previously exist. As the WBX is a wireless switch, costly conduit and cable is not needed to install it. Large processing plants with many valves spread throughout their facility would not need to worry about the heavy man hours and cost required to retrofit existing valves with standard wired options.



In hazardous locations, the Limitless™ WBX is designed to contain an explosion.

Sensing and Control

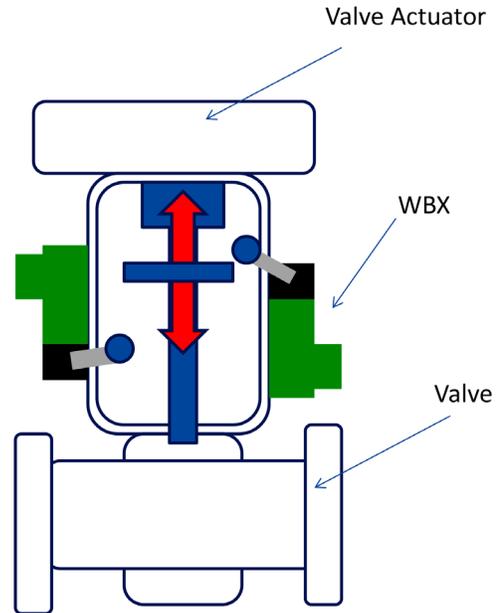
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Limitless™ Point-to-Point Wireless Hazardous Location Switch, WBX Series

Features and Benefits

- Enables control in remote parts of application/machinery/ manufacturing plants, where wiring is not possible or feasible
- Ability to reconfigure and network multiple interfaces, or point-to-point with personalized addresses which allows for adding, subtracting, or relocating Limitless™ inputs easily
- Can reduce installation/maintenance costs with no wiring to Limitless™ switches, conduit, strain relief, clips, connectors, junction boxes, etc.
- Wireless operation and signal transmission eliminates the need to physically send maintenance engineers into the field thus reducing installation and operating costs
- Provides an independent layer of protection for equipment, by giving an immediate indication that a remote mechanical device is not positioned or moving correctly
- Batteries are inexpensive, readily available worldwide, and easy to replace. No re-provisioning is required after a battery replacement
- Batteries are readily available and easy to replace

Block Diagram



Find Out More

To learn more about Honeywell safety solutions, contact a Honeywell representative today at **1-800-537-6945**, e-mail info.sc@honeywell.com, or visit sensing.honeywell.com

Sensing and Control

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While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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