

Crane Jib/Two Block Assembly Applications

BACKGROUND

MICRO SWITCH™ limit switches are an essential element for monitoring the position and presence of various different components on a crane such as the jib/two-block assembly. It often detects when the jib/two-block assembly is reaching the end of the boom so the crane operator can stop the movement of the jib/two-block assembly and not cause damage. The limit switch's wiring is moving and flexing during use in this harsh environment. And often, the condition of the wire degrades overtime. Degradation of wires can lead to intermittent position indication of the jib/two-block assembly that is not a desired condition.

SOLUTION

Honeywell's Limitless™ WGLA Series global limit switch eliminates the need for a conventional wired limit switch by offering a wireless solution that delivers higher reliability and lower lifetime cost. Going wireless increases system reliability by eliminating the potential issues that may occur with switch wiring or connectors. Limitless™ switches are also simpler to move or replace with no need to disconnect and then re-attach wiring. There's also no risk of incorrect wire attachment. Wiring expenses are also eliminated as there are no conduits, clips, or connectors required to place a limit switch where needed. There are no wire routing problems to solve, no need for pulling wire during installation, and no restrictions on location and placement of the Limitless™ switch. In addition, Limitless™ switch design includes harsh duty and sealing performance - a constant with MICRO SWITCH™ products.

LIMITLESS™ WGLA Series

The new Limitless™ product line combines the best of MICRO SWITCH™ global limit switches with the latest commercial off-the-shelf wireless technology. Wireless-enabled limit switches can now be used for position sensing and presence/absence detection for an endless number of applications. The Limitless™ Series is especially beneficial for remote monitoring applications where wiring or wire maintenance is not physically possible or economically feasible. Combining this greater flexibility with proven harsh duty packaging can result in increased efficiencies and improved safety for machines, equipment, OEMs, and operators. (See Table 1.)

Figure 1. Crane Jib




Figure 2. Limitless™ Application



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Table 1. Limitless™ WGLA Series

WGLA Series	Features	Benefits
	<p>Wireless design</p> <ul style="list-style-type: none"> • Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-to-point • FCC 15, IC, ACMA & ETSI • EMI Immunity • Up to 304 m [1000 ft] communication range when used with a Limitless™ wireless monitor or receiver module (sold separately) • Reliable, flexible, and secure wireless transmission • Standard replaceable battery with ultra-low power consumption • Direct or remote mount antenna options <p>Mechanical design</p> <ul style="list-style-type: none"> • EN50041 metal enclosure • IP67; NEMA 1,4,12,13 • Full complement of operating heads and levers • Modular construction of components • Design for ease of installation 	<ul style="list-style-type: none"> • Enables presence/absence detection in remote parts of application / machinery, where wiring is an issue or not feasible • Ability to reconfigure and network multiple switches, or point-to-point with personalized addresses, which allows for adding, subtracting or relocating Limitless™ switches easily • Reduced installation/maintenance costs with no wires, conduit, strain relief, clips, connectors, connection boxes, etc. • Eliminates issues with wire connection integrity on moving equipment • Consumes ultra-low power to prolong battery life

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WARNING

Honeywell does not recommend using devices for critical control applications where there is, or may be, a single point of failure or where single points of failure may result in an unsafe condition. It is up to the end-user to weigh the risks and benefits to determine if the products are appropriate for the application based on security, safety and performance. Additionally, it is up to the end-user to ensure that the control strategy results in a safe operating condition if any crucial segment of the control solution fails.

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

WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

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

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 it 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 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.

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

Sensing and Control
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WARNING

MISUSE OF DOCUMENTATION

- The information presented in this application note is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

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

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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