



Limitless<sup>™</sup> Wireless Hazardous Area Limit Switches **WBX Series** 



Datasheet

# Limitless<sup>™</sup> WBX Series Wireless Hazardous Area Limit Switch

Honeywell's Limitless<sup>™</sup> WBX Series combines the best of Honeywell's MICRO SWITCH<sup>™</sup> Heavy Duty limit switches with a point-to-point (P2P) network. It has a variety of remote or built-in antenna options. Wireless-enabled limit switches can be used for position sensing and presence/absence detection for an endless number of applications.

The WBX 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, and operators.

Customers with a global footprint can utilize local Honeywell experts for application and solution support.

# What makes our switches better?

- 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<sup>™</sup> inputs easily
- Can reduce installation/maintenance costs with no wiring to Limitless<sup>™</sup> 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



REMOTE MONITORING • RELIABLE GLOBAL APPLICATION AND ENGINEERING SUPPORT

## Features and Benefits

### WIRELESS DESIGN

Radio (license-free and global) WPAN 802.15.4, 2.4 GHz, point-to-point (P2P) provides **reliable, flexible, and secure wireless transmission**. Up to **305 m [1000 ft] line-of-sight communication** range when used with a Limitless<sup>™</sup> WPMM Series wireless monitor, WDRR Series receiver module, or WMPR receiver module (sold separately).

The use of AES 128 bit encryption ensures that no unregistered node can successfully insert erroneous signals into a network or decode signals from a network, making the network secure from both eavesdropping and sabotage.

## Abilty to install in applications where not previously possible

### **REMOTE CONTROL AND MONITORING**

**License-free RF wireless protocol** standards (IEEE 802.15.4) allow for remote control and monitoring of processes and equipment.

### WIRELESS SWITCHING IN CLASSIFIED ATMOSPHERES

Designed to be used where other wireless products can not. Hazardous location approvals allow it to be **used in a wide range of classified atmospheres**, allowing for greater flexibility, making the Limitless<sup>™</sup> WBX product application adaptable.

## A cost-effective solution

### WELL-SUITED FOR TOUGH ENVIRONMENTS

IP67 (self certified), NEMA 4 sealed metal enclosure, with direct or remote mount antenna options, allows **for use in most harsh environments**. Powder-coated aluminum housing **enhances durability** and **resistance to corrosion**.

#### RECONFIGURABLE

Able to reconfigure multiple WBX Series switches **easily allows for adding, subtracting, or relocating** of Limitless<sup>™</sup> WBX Series switches. Eliminates issues with wire connection integrity on moving equipment.

### **REDUCES COSTS**

**Can reduce installation and maintenance costs** because there are no wires, conduit, strain relief, clips, connectors, connection boxes, etc.

#### OFF-THE-SHELF BATTERIES

**Batteries** are available from electrical supply houses and distributors. They are readily available worldwide, thereby eliminating the need for specialized batteries.

#### GLOBAL USE

Designed for **global availability**, the WBX Series is suitable for use in most customer applications, simplifying the design-in process, eliminating tooling costs, and reducing manufacturing labor costs.

# **Potential Applications**

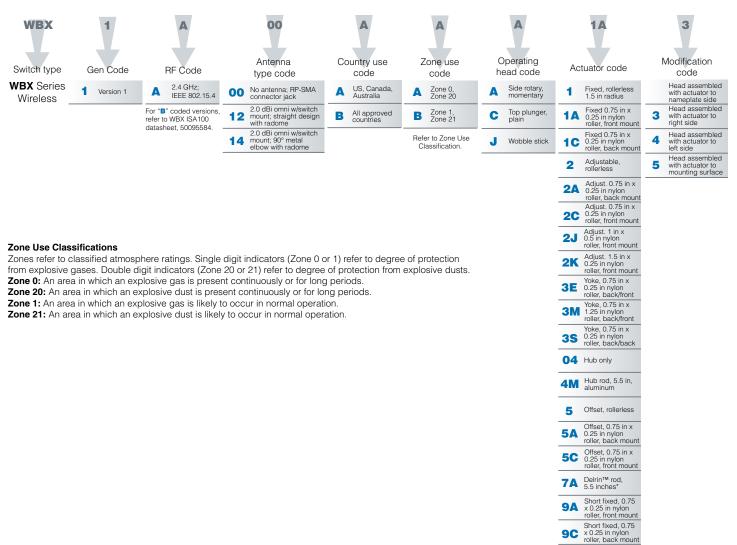


### **INDUSTRIAL**

- Agriculture machines
- Door position
- Grain diverters or flaps
- Hose attachment verification
- Material handling
- Paint robotics
- Pipeline pigs
- Pump stroke count
- Remote or temporary equipment
- Safety shower alarming
- Valve position

### TRANSPORTATION

Agricultural equipment



\* 7A to be assembled to operating head code J only.

### PRODUCT NOMENCLATURE

Table 1. Specifications

| Module transmit power<br>Receive sensitivity (typ.)   | Limitless™ Hazardou<br>global, licen<br>side rotary, top pl<br>many rotary leve<br>powder-coated die<br>IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod | Series<br>us Area Limit Switches<br>se-free bands<br>unger, wobble stick<br>r options available<br>-cast aluminum body<br>Iz radio; WPAN 802.15.4<br>kbps<br>2.4 GHz<br>e A: 14 dBm max. |  |  |
|---|---|--|--|--|
| Availability<br>Actuator<br>Lever type<br>Housing material<br>Radio/communication protocol<br>Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.) | global, licen<br>side rotary, top pl<br>many rotary leve<br>powder-coated die<br>IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod                        | se-free bands<br>unger, wobble stick<br>er options available<br>-cast aluminum body<br>Iz radio; WPAN 802.15.4<br>Kbps<br>2.4 GHz<br>e A: 14 dBm max.                                    |  |  |
| Actuator<br>Lever type<br>Housing material<br>Radio/communication protocol<br>Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)                 | side rotary, top pl<br>many rotary leve<br>powder-coated die<br>IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod   | unger, wobble stick<br>r options available<br>-cast aluminum body<br>Iz radio; WPAN 802.15.4<br>kbps<br>2.4 GHz<br>e A: 14 dBm max.  |  |  |
| Lever type<br>Housing material<br>Radio/communication protocol<br>Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)                             | many rotary leve<br>powder-coated die<br>IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod  | r options available<br>-cast aluminum body<br>Iz radio; WPAN 802.15.4<br>kbps<br>2.4 GHz<br>e A: 14 dBm max.   |  |  |
| Housing material<br>Radio/communication protocol<br>Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)   | powder-coated die<br>IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod  | -cast aluminum body<br>Iz radio; WPAN 802.15.4<br>kbps<br>2.4 GHz<br>e A: 14 dBm max.  |  |  |
| Radio/communication protocol<br>Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)   | IEEE 802.15.4, 2.4 GH<br>250<br>ISM 2<br>country use cod<br>country use cod   | Iz radio; WPAN 802.15.4<br>kbps<br>2.4 GHz<br>e A: 14 dBm max.   |  |  |
| Data rate<br>Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)   | 250<br>ISM 2<br>country use cod<br>country use cod  | kbps<br>2.4 GHz<br>e A: 14 dBm max.  |  |  |
| Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)  | ISM 2<br>country use cod<br>country use coc   | e A: 14 dBm max.   |  |  |
| Operating frequency<br>Module transmit power<br>Receive sensitivity (typ.)<br>Periodic update interval  | country use cod<br>country use cod  | e A: 14 dBm max.   |  |  |
| Receive sensitivity (typ.)  | country use coo   |  |  |  |
| 5 (51 )   | 00  | de B: 8 dBm max.   |  |  |
| Periodic update interval  | -98   | dBm  |  |  |
| (seconds)   | field programmable interval: 1,   | 5, 10, 30, or 60 second intervals  |  |  |
| Antenna type  | direct or remote mount antenna optic  | ons; omni directional; straight or elbow   |  |  |
| Signal range (max.)*  |   | etween the WBX switch and monitor/receiver<br>IBi integral antenna   |  |  |
| Battery   | 3.6 Vdc Lithium Thionyl Chloride; AA size   | , quantity: 2; see battery details on page 6.  |  |  |
| Battery life  | one year at five-second up  | date interval @ 25 °C [77 °F]  |  |  |
| Sealing   | NEMA 1, 3, 4, 13  | ; IP67 (self-certified)  |  |  |
| EMC   | latest applicable standards: EN 300 328, V1.8.1; EN 61326-1 (2012);<br>EN 301 489-1, V1.9.2; EN 301 489-17, V2.2.1  |  |  |  |
| Shock   | IEC 60068-2-27; half sine, 50 g, 6 mS   |  |  |  |
| Vibration   | IEC 60068-2-6: 10 Hz to 58 Hz w/0,35  | mm peak-to-peak, 58 Hz to 500 Hz, 10 g   |  |  |
| Operating temperature   | -40 °C to 70 °C   | [-40 °F to 158 °F]   |  |  |
| Communication agency approvals and standards  | Industry Canada R   | 7 and 15.209<br>SS 210 Gen Issue 8<br>ACMA, C-tick mark  |  |  |
|   | UL 60079-0 edition 6;   | AN/CSA-C22.2 No. 157-92 (R2012)<br>; UL 60079-11 edition 6<br>2; CSA C22.2 No. 60079-0 : 11 edition 2  |  |  |
| cULus standards and certifications  | Class I, Div 1, Groups A, B, C, D T4<br>Class I, Zone 1 AEx ia IIC T4 Ga<br>Class I, Zone 1 Ex ia IIC T4 Ga<br>Class II, Zone 21 AEx ia IIIC T135°C Da                              | Class II, Div 1, Groups E, F, G<br>Class I, Zone 0 AEx ia IIC T4 Ga<br>Class I, Zone 0 Ex ia IIC T4 Ga<br>Class II, Zone 20 AEx ia IIIC T135°C Da<br>Tambient -40°C to 70°C              |  |  |
| ATEX certification  |   | 9-0 : 2012+ A11 : 2013<br>2; EN 60079-26 : 2007  |  |  |
|   | Zone 1 Ex ia IIC T4 Ga<br>Zone 21 Ex ia IIIC T135°C Da  | Zone 0 Ex ia IIC T4 Ga<br>Zone 20 Ex ia IIIC T135°C Da   |  |  |
| IEC Ex certification  | Standards: IEC 60079-0 edition 6.0; IEC 60<br>Zone 1 Ex ia IIC T4 Ga  | 079-11 edition 6.0; IEC 60079-26 edition 2.0<br>Zone 0 Ex ia IIC T4 Ga   |  |  |
|   | Zone 1 Ex la litC 14 Ga<br>Zone 21 Ex la IIIC T135°C Da   | Zone 20 Ex la IIC T4 Ga<br>Zone 20 Ex la IIIC T135°C Da  |  |  |

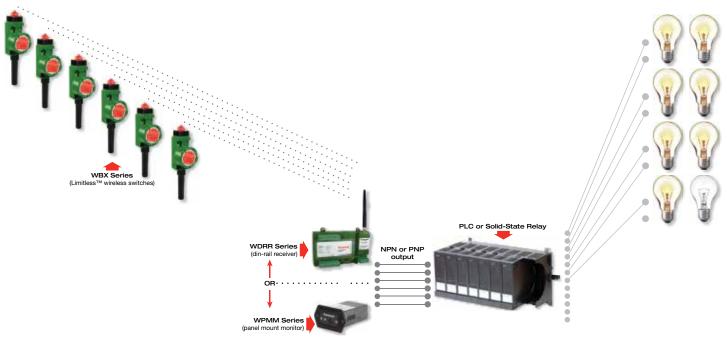
\* Actual range will vary depending upon antennas, cables, and site topography.

#### Table 2. Battery Specifications\*

| Characteristic                                     | Technical Data (typical values @ 25 °C for batteries stored)   |
|--|--|
| Honeywell battery part number                      | WBT7   |
| Battery size (each cell)                           | AA<br>Ø 14,5 mm x 50,5 mm L [Ø 0.57 in x 1.99 in L]  |
| Battery type                                       | Lithium Thionyl Chloride   |
| Nominal capacity @ 2 mA, up to 2 V                 | 2.4 Ah   |
| Rated voltage                                      | 3.6 V  |
| Max. recommended continuous current                | 200 mA   |
| Max. pulse current capability                      | 400 mA   |
| Weight   | 17.6 g [0.62 oz] per cell  |
| Lithium metal content                              | 0.7 g per cell (approx.)   |
| Volume   | 8 cc per cell  |
| Operating temperature                              | -55 °C to 85 °C [-67 °F to 185 °F]   |
| Storage temperature (recommended)                  | 30 °C [86 °F]  |
| Suggested alternate sources of battery cell supply | Xeno Energy (part number XL-060F)<br>Bipower (part number ER14505H)<br>Tadiran (part number TL-5903/S) |

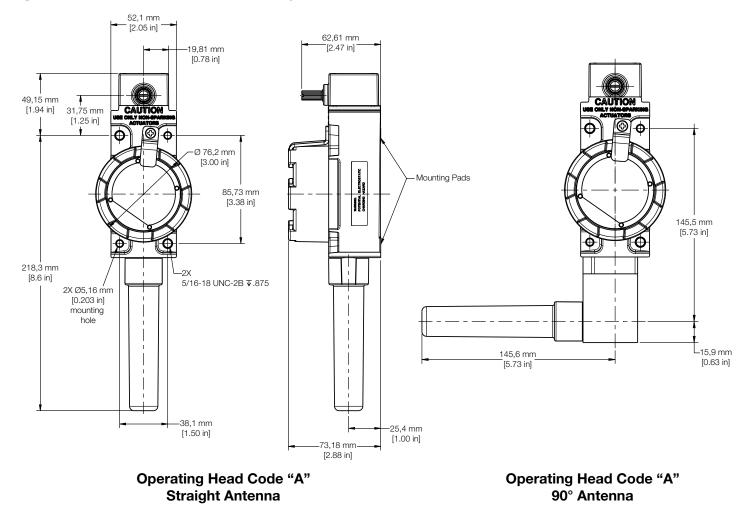
### EXAMPLE POINT-TO-POINT SYSTEM DIAGRAM

Figure 1. WBX Limitless™ Point-to-Point System Diagram



### MOUNTING AND REFERENCE DIMENSIONS

Figure 2. Limitless™ WBX Series Side Rotary Dimensions



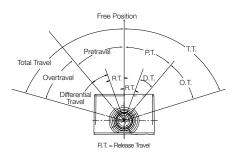
### **MECHANICAL OPERATING SPECIFICATIONS**

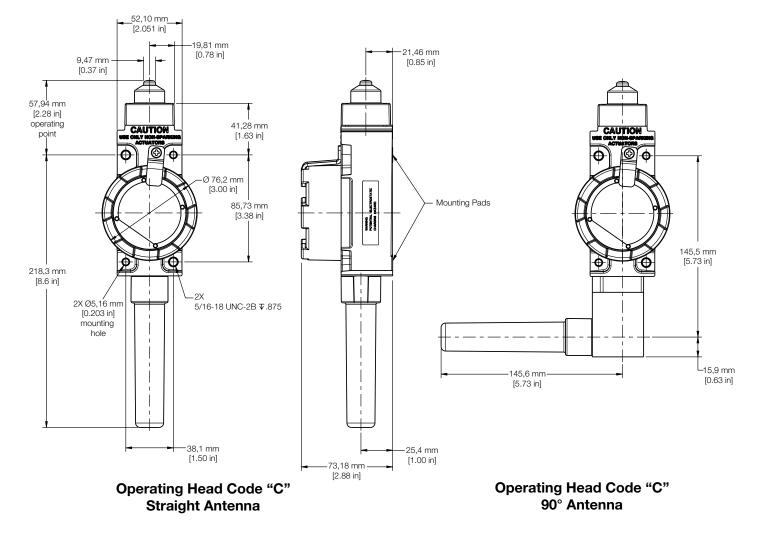
#### for Side Rotary Actuators

Table 3. Operating Specifications (Mechanical)\*

| Characteristic      | Operating Head Code "A" Momentary |
|---------------------|-----------------------------------|
| Pretravel           | 17.5° max.                        |
| Overtravel          | 60° min.                          |
| Differential travel | 7° max.                           |
| Total travel        | 85° ref                           |
| Operating torque    | 0,452 Nm [4 in-lb] max.           |
| Full travel torque  | 0,678 Nm [6 in-lb] max.           |
|                     |                                   |

\* Operating point given in relation to lever mounting shaft





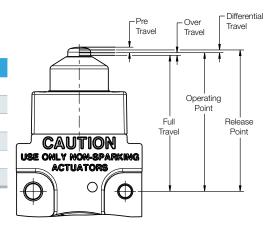
### Figure 3. Limitless™ WBX Series Pin Plunger Dimensions

### **MECHANICAL OPERATING SPECIFICATIONS**

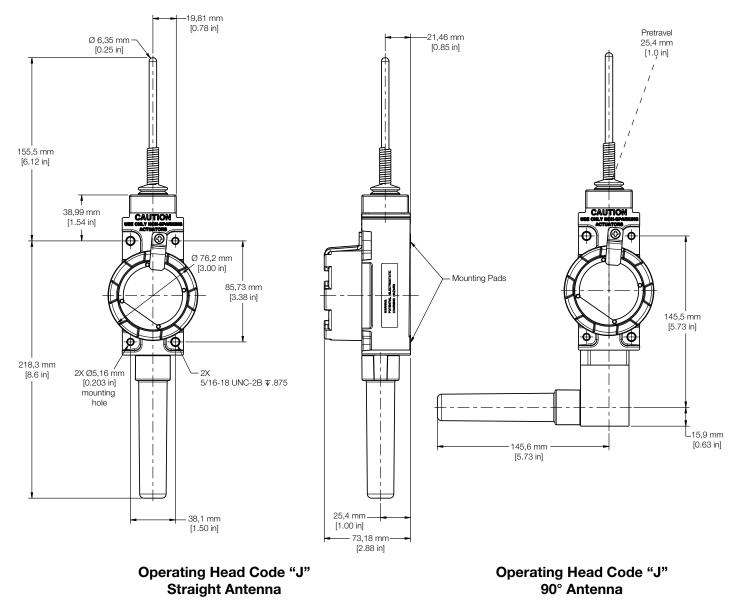
for Pin Plunger Actuators

| Table 4. Operating Specifications (Mechanical)* |   |  |  |  |
|---|---|--|--|--|
| Characteristic                                  | Operating Head Code "C" Top Plunger Plain |  |  |  |
| Pretravel                                       | 1,78 mm [0.07 in max.]                    |  |  |  |
| Overtravel                                      | 4,83 mm [0.19 in min.]                    |  |  |  |
| Differential travel                             | 0,51 mm [0.02 in max.]                    |  |  |  |
| Operating force                                 | 20,02 N [4.5 lb max.]                     |  |  |  |
| Operating point                                 | 57,94 mm ± 0,51 mm [2.281 in ±0.02 in]    |  |  |  |
| Full overtravel force                           | 40 N [9 lb max.]                          |  |  |  |
|   |   |  |  |  |

\* Operating point given in relation to top mounting hole



### Figure 4. Limitless™ WBX Series Wobble Dimensions



### **MECHANICAL OPERATING SPECIFICATIONS**

for Wobble Stick Actuators

Table 5. Operating Specifications (Mechanical)\*

| Characteristic  | Operating Head Code "J" Wobble Stick |
|-----------------|--------------------------------------|
| Pretravel       | 25,4 mm [1.0 in] approx. radius      |
| Operating force | 283 g [10.0 oz] max.                 |

Table 6. WBX Series Available Levers

Note: In hazardous locations, non-sparking actuators are required.



Table 7. WBX Series Lever Order Guide

|   | Catalog<br>Listing | Material                           | Roller<br>Dia. mm<br>[in] | Roller<br>Width mm<br>[in] | Roller<br>Mounting |
|---|--------------------|------------------------------------|---------------------------|----------------------------|--------------------|
|   | Fixed 38,1 [       | 1.5] inch radiu                    | IS                        |                            |                    |
|   | LSZ51              | Rollerless                         | n/a                       | n/a                        | n/a                |
|   | LSZ51A             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Front              |
| 1833  | LSZ51C             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back               |
| 10716   | LSZ51F             | Nylon                              | 25,4 [1.0]                | 12,7 [0.50]                | Front              |
| 11/1 11   | LSZ51G             | Nylon                              | 38,1 [1.5]                | 6,35 [0.25]                | Front              |
|   | LSZ51J             | Nylon                              | 25,4 [1.0]                | 12,7 [0.50]                | Back               |
| -   | LSZ51M             | Nylon                              | 19 [0.75]                 | 31,7 [1.25]                | Back               |
| 1   | LSZ51P             | Nylon                              | 19 [0.75]                 | 12,7 [0.50]                | Front              |
| T   | LS2Z51A (sst)      | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Front              |
| - Aller   | LS2Z51C (sst)      | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back               |
|   | LS2Z51E (sst)      | Copper alloy                       | 19 [0.75]                 | 6,35 [0.25]                | Front              |
|   | LS2Z51F (sst)      | Copper alloy                       | 19 [0.75]                 | 6,35 [0.25]                | Back               |
|   | Adjustable 3       | 38,1 [1.5] in to                   | 3.5 in rad                | ius                        |                    |
| 0   | LSZ52              | Rollerless                         | n/a                       | n/a                        | n/a                |
|   | LSZ52A             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back               |
| A   | LSZ52C             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Front              |
|   | LSZ52E             | Nylon                              | 19 [0.75]                 | 33,0 [1.30]                | Front              |
| a loss of   | LSZ52J             | Nylon                              | 25,4 [1.0]                | 12,7 [0.50]                | Front              |
| 6   | LSZ52K             | Nylon                              | 38,1 [1.5]                | 6,35 [0.25]                | Front              |
| 1   | LSZ52M             | Nylon                              | 50,8 [2.0]                | 6,35 [0.25]                | Front              |
| A DA  | LSZ52N             | Nylon                              | 19 [0.75]                 | 12,7 [0.50]                | Front              |
|   | LS2Z52A (sst)      | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Front              |
|   | LS2Z52C (sst)      | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back               |
|   | LS2Z52E (sst)      | Copper alloy                       | 19 [0.75]                 | 6,35 [0.25]                | Front              |
| and the second se | LS2Z52F (sst)      | Copper alloy                       | 19 [0.75]                 | 6,35 [0.25]                | Back               |
|   |                    | [1.5] in radius                    |                           | 0,00 [0.20]                | Duoit              |
| -   | LSZ53A             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Front/Back         |
|   | LSZ53E             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back/Front         |
| SA NY   | LSZ53M             | Nylon                              | 19 [0.75]                 | 31,7 [1.25]                | Back/Front         |
|   | LSZ53S             | Nylon                              | 19 [0.75]                 | 6,35 [0.25]                | Back/Back          |
|   |                    |                                    | - [j                      | .,                         |                    |
|   | Rod                |                                    |                           |                            |                    |
| 1   | LSZ54              | Hub only                           | n/a                       | n/a                        | n/a                |
|   | LSZ54P             | Plastic rod,<br>305 mm [12 in]     | Ø6,85<br>[Ø 0.27]         | n/a                        | n/a                |
|   | LSZ54W             | Plastic rod,<br>183 mm<br>[7.2 in] | Ø6,85<br>[Ø 0.27]         | n/a                        | n/a                |
| It c  |                    |                                    |                           |                            |                    |

|       | Catalog<br>Listing  | Material        | Roller<br>Dia. mm<br>[in] | Roller<br>Width mm<br>[in] | Roller<br>Mounting |
|-------|---|-----------------|---------------------------|----------------------------|--------------------|
|       | Offset – 38   | ,1 [1.5] in ra  | dius                      |                            |                    |
|       | LSZ55   | Rollerless      | n/a                       | n/a                        | n/a                |
| 124.0 | LSZ55A  | Nylon           | 19 [0.75]                 | 6,35 [0.25]                | Back               |
| 1115  | LSZ55C  | Nylon           | 19 [0.75]                 | 6,35 [0.25]                | Front              |
| 191   | LSZ55E  | Nylon           | 19 [0.75]                 | 12,7 [0.50]                | Front              |
| 3.    | LSZ55K  | Nylon           | 38,1 [1.5]                | 6,35 [0.25]                | Front              |
|       | Short fixed   | l - 1.3 in radi | us                        |                            |                    |
| -     | LSZ59A  | Nylon           | 19 [0.75]                 | 6,35 [0.25]                | Front              |
| 3     | LSZ59C  | Nylon           | 19 [0.75]                 | 6,35 [0.25]                | Back               |
|       | Rubber rol  | ler levers      |                           |                            |                    |
|       | LSZ51Y<br>38,1 [1.5] radius<br>(standard)                   | Rubber          | 50 [2.0]                  | 12,7 [0.5]                 | front              |
|       | LSZ55Y<br>38,1 [1.5] radius<br>(offset)                     | Rubber          | 50 [2.0]                  | 12,7 [0.5]                 | front              |
| ψ.    | LSZ52Y<br>38,1 to 89 [1.5<br>to 3.5] radius<br>(adjustable) | Rubber          | 50 [2.0]                  | 12,7 [0.5]                 | front              |

\* May require orientation of switch and lever to enable gravity to help restore switch to free position.

#### Table 8. Antenna Listings/Order Code Specifications

Antennas can be ordered with the Limitless™ Wireless switches by inserting the **Antenna Type Code** into the part number as shown in the nomenclature. Also, switches can be ordered without antennas, by using the "00" Antenna Type Code in the part number. Antennas may also be ordered separately using the **Part Numbers** below.

#### Table 8. Antenna Options - Country Code A

| Ant.<br>type<br>code |    | Part<br>number | Replacement<br>antenna mount<br>or cable                       | An-<br>tenna<br>design   | Ant.<br>gain<br>(max.) | Con-<br>nector/<br>mounting        | Dimensions   | Antenna<br>material                   | Cable<br>material/type   | Mount<br>mate-<br>rial                   |
|----------------------|----|----------------|--|--------------------------|------------------------|------------------------------------|--|---------------------------------------|--|--|
| 00                   |    | WAN03RSP       | _  | flat                     | 3.0 dBi                | RP-SMA<br>plug/adhe-<br>sive mount | 115 mm L x 22,1 mm W x<br>4,57 mm D [4.53 in L x<br>0.87 in W x 0.18 in D] 3 m<br>[9.8 ft] cable | UV stable ABS                         | UV stable PVC/<br>RG-174 coax  | _  |
| 00                   |    | WAN04RSP       | WAMM100RSP-005<br>base with 1,52 m [5 ft]<br>of cable          | tilt/<br>swivel          | 5.5 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 208,28 mm L<br>[Ø 0.50 in x 8.20 in L]   | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax  | UV stable<br>black<br>ABS                |
| 00                   |    | WAN04RSP       | WAMM100RSP-010<br>base with 3,05 m [10<br>ft] of cable         | tilt/<br>swivel          | 5.5 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 208,28 mm L<br>[Ø 0.50 in x 8.20 in L]   | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax  | UV stable<br>black<br>ABS                |
| 00                   |    | WAN05RSP       | WAMM100RSP-005<br>base with 1,52 m [5 ft]<br>of cable          | tilt/<br>swivel          | 9.0 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 384,05 mm L<br>[Ø 0.50 in x 15.12 in L]  | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax  | UV stable<br>black<br>ABS                |
| 00                   |    | WAN05RSP       | WAMM100RSP-010<br>base with 3,05 m [10<br>ft] of cable         | tilt/<br>swivel          | 9.0 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 384,05 mm L<br>[Ø 0.50 in x 15.12 in L]  | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax  | UV stable<br>black<br>ABS                |
| 00                   | 1  | WAN06RNJ       | WCA200RN-<br>PRSP-002 coax cable<br>assembly 0,682 m<br>[2 ft] | straight                 | 8.0 dBi                | RP-N jack/<br>bracket              | Ø 33,5 mm x 427,9 mm L<br>[Ø 1.32 in x 16.85 in L]   | UV stable<br>fiberglass               | UV stable PVC/<br>RG-316 coax, UV<br>stable Polyethyl-<br>ene/200 Series<br>coax | 300 se-<br>ries SST<br>aluminum<br>alloy |
| 00                   | Ð  | WAN06RNJ       | WCA200RN-<br>PRSP-010 coax cable<br>assembly 3,05 m<br>[10 ft] | straight                 | 8.0 dBi                | RP-N jack/<br>bracket              | lØ 33,5 mm x 427,9 mm L<br>[Ø 1.32 in x 16.85 in L]  | UV stable<br>fiberglass               | UV stable PVC/<br>RG-316 coax, UV<br>stable Polyethyl-<br>ene/200 Series<br>coax | 300 se-<br>ries SST<br>aluminum<br>alloy |
| 00                   |    | WAN08RSP       | _  | 90°                      | 0 dBi                  | RP-SMA<br>plug/direct<br>mount     | Ø 8,0 mm x 29 mm L<br>[Ø 0.34 in x 1.14 in L]  | UV stable                             | _  | _  |
| 00                   | 0  | WAN09RSP       | _  | low<br>profile<br>mobile | 3.0 dBi                | RP-SMA<br>plug/mag-<br>netic       | Ø 76,2 mm x 115 mm L<br>[Ø 3.0 in x 4.54 in L]<br>4,57 m [15 ft] cable                           | UV stable ABS plastic                 | UV stable black<br>PVC   | Nickel-<br>plated<br>steel               |
| 00                   | 80 | WAN10RSP       | _  | straight                 | 5.0 dBi                | RP-SMA<br>plug/mag-<br>netic       | Ø 76,2 mm x 230,1 mm L<br>[Ø 3.0 in x 9.06 in L]<br>4,57 m [15 ft] cable                         | Nickel-plated<br>steel                | UV stable black<br>PVC   | Nickel-<br>plated<br>steel               |
| 00                   | 6  | WAN11RSP       | _  | low<br>profile<br>mobile | 4.0 dBi                | RP-SMA<br>plug/thru-<br>hole screw | Ø 39 mm x 42,4 mm L<br>[Ø 1.54 in x 1.67 in L ]  | UV stable black<br>PVC                | UV stable black<br>PVC   | Nickel-<br>plated<br>steel               |
| 12                   |    | WAN12RSP       | _  | straight                 | 2.0 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 10 mm x 79,5 mm L<br>[Ø 0.39 in. x 3.13 in. L]   | UV stable ABS plastic                 | _  | _  |

| Ant.<br>type<br>code |    | Part<br>number | Replacement<br>antenna mount<br>or cable               | An-<br>tenna<br>design   | Ant.<br>gain<br>(max.) | Con-<br>nector/<br>mounting        | Dimensions   | Antenna<br>material                   | Cable mate-<br>rial/ type     | Mount<br>mate-<br>rial     |
|----------------------|----|----------------|--|--------------------------|------------------------|------------------------------------|--|---------------------------------------|-------------------------------|----------------------------|
| 00                   |    | WAN03RSP       | _  | flat                     | 3.0 dBi                | RP-SMA<br>plug/adhe-<br>sive mount | 115 mm L x 22,1 mm W x<br>4,57 mm D [4.53 in L x<br>0.87 in W x 0.18 in D] 3 m<br>[9.8 ft] cable | UV stable ABS                         | UV stable PVC/<br>RG-174 coax | _                          |
| 00                   |    | WAN04RSP       | WAMM100RSP-005<br>base with 1,52 m [5 ft]<br>of cable  | tilt/<br>swivel          | 5.5 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 208,28 mm L<br>[Ø 0.50 in x 8.20 in L]   | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax | UV stable<br>black<br>ABS  |
| 00                   |    | WAN04RSP       | WAMM100RSP-010<br>base with 3,05 m [10<br>ft] of cable | tilt/<br>swivel          | 5.5 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 12,7 mm x 208,28 mm L<br>[Ø 0.50 in x 8.20 in L]   | UV stable<br>molded polyure-<br>thane | UV stable PVC/<br>RG-174 coax | UV stable<br>black<br>ABS  |
| 00                   |    | WAN08RSP       | _  | 90°                      | 0 dBi                  | RP-SMA<br>plug/direct<br>mount     | Ø 8,0 mm x 29 mm L<br>[Ø 0.34 in x 1.14 in L]  | UV stable                             | _                             | _                          |
| 00                   | 0  | WAN09RSP       | _  | low<br>profile<br>mobile | 3.0 dBi                | RP-SMA<br>plug/mag-<br>netic       | Ø 76,2 mm x 115 mm L<br>[Ø 3.0 in x 4.54 in L]<br>4,57 m [15 ft] cable                           | UV stable ABS plastic                 | UV stable black<br>PVC        | Nickel-<br>plated<br>steel |
| 00                   | 80 | WAN10RSP       | _  | straight                 | 5.0 dBi                | RP-SMA<br>plug/mag-<br>netic       | Ø 76,2 mm x 230,1 mm L<br>[Ø 3.0 in x 9.06 in L]<br>4,57 m [15 ft] cable                         | Nickel-plated<br>steel                | UV stable black<br>PVC        | Nickel-<br>plated<br>steel |
| 00                   | 6  | WAN11RSP       | _  | low<br>profile<br>mobile | 4.0 dBi                | RP-SMA<br>plug/thru-<br>hole screw | Ø 39 mm x 42,4 mm L<br>[Ø 1.54 in x 1.67 in L ]  | UV stable black<br>PVC                | UV stable black<br>PVC        | Nickel-<br>plated<br>steel |
| 12                   |    | WAN12RSP       | _  | straight                 | 2.0 dBi                | RP-SMA<br>plug/direct<br>mount     | Ø 10 mm x 79,5 mm L<br>[Ø 0.39 in. x 3.13 in. L]   | UV stable ABS<br>plastic              | _                             | _                          |

#### Table 9. Antenna Options - Country Code B

### ACCESSORIES

 Table 10. Replacement Parts

|   | Part Number | Description                          |
|---|-------------|--------------------------------------|
|   | WAN12RSP    | 2.4 GHz, 2.0 dBi RP-SMA WLAN antenna |
| t | WAN20RAD    | Replacement WBX radome               |

#### Table 11. Cable and Coax Accessories

|        | Part Number      | Description   |
|--------|------------------|---|
| (a) en | WCA200RNPRSP-002 | Limitless™ Series wireless cable assembly with 200 Series cable, 2 ft length, reverse polarity N plug to reverse polarity SMA plug, use only with WAN06RNJ antenna              |
|        | WCA200RNPRSP-010 | Limitless <sup>™</sup> Series wireless cable assembly with 200 Series cable, 10 ft length, reverse polarity N plug to reverse polarity SMA plug, use only with WAN06RNJ antenna |
| Q      | WCA200RNJRSP-002 | Limitless <sup>™</sup> Series wireless cable assembly with 200 Series cable, 2 ft length, reverse polarity SMA jack to reverse polarity SMA plug                                |
| Q      | WCA200RNJRSP-005 | Limitless <sup>™</sup> Series wireless cable assembly with 200 Series cable, 5 ft length, reverse polarity SMA jack to reverse polarity SMA plug                                |
| Q      | WCA200RNJRSP-010 | Limitless™ Series wireless cable assembly with 200 Series cable, 10 ft length, reverse polarity SMA jack to reverse polarity SMA plug   |
| Q      | WCA200RNJRSP-015 | Limitless <sup>™</sup> Series wireless cable assembly with 200 Series cable, 15 ft length, reverse polarity SMA jack to reverse polarity SMA plug                               |
| Q      | WCA200RNJRSP-020 | Limitless™ Series wireless cable assembly with 200 Series cable, 20 ft length, reverse polarity SMA jack to reverse polarity SMA plug   |

#### Table 12. Base Accessories

|   | Part Number    | Description   |
|---|----------------|---|
|   | WAMM100RSP-005 | Magnetic antenna base with 1,52 m [5 ft] of cable   |
|   | WAMM100RSP-010 | Magnetic antenna base with 3,05 m [10 ft ] of cable |
| 4 | WPB1           | WPMM Wireless panel mount reciever mounting bracket |
| Q | WPR1           | WPMM panel mount retainer                           |

## Table 13. Catalog Listings

This Honeywell datasheet supports the following Limitless™ WBX Series Catalog Listings

|   | Part number  | Description  |
|---|--------------|--|
| 4 | WBX1A00ABA   | Limitless™ WBX Series Hazardous Area Limit Switch, RP-SMA antenna jack, side rotary momentary, IEEE 802.15.4 radio specification                                   |
|   | WBX1A12ABA   | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; straight design, side rotary momentary, IEEE 802.15.4 radio specification          |
| 4 | WBX1A00ABA3  | Limitless™ WBX Series Hazardous Area Limit Switch, RP-SMA antenna jack, side rotary momentary to right, IEEE 802.15.4 radio specification                          |
|   | WBX1A12ABA3  | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; straight design, side rotary momentary to right, IEEE 802.15.4 radio specification |
| 4 | WBX1A00ABA4  | Limitless™ WBX Series Hazardous Area Limit Switch, RP-SMA antenna jack, side rotary momentary to left, IEEE 802.15.4 radio specification                           |
|   | WBX1A12ABA4  | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; straight design, side rotary momentary to left, IEEE 802.15.4 radio specification  |
| 4 | WBX1A00ABC   | Limitless™ WBX Series Hazardous Area Limit Switch, RP-SMA antenna jack, top pin plunger, IEEE 802.15.4 radio specification   |
|   | WBX1A12ABC   | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; straight design, top pin plunger, IEEE 802.15.4 radio specification                |
|   | WBX1A00ABJ7A | Limitless™ WBX Series Hazardous Area Limit Switch, RP-SMA antenna jack, wobble stick, IEEE 802.15.4 radio specification  |
|   | WBX1A12ABJ7A | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; straight design, wobble stick, IEEE 802.15.4 radio specification                   |
|   | WBX1A14ABA   | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; right angle design, side rotary momentary, IEEE 802.15.4 radio specification       |
|   | WBX1A14ABC   | Limitless™ WBX Series Hazardous Area Limit Switch, 2.0 dBi omni w/switch mount; right angle design,<br>pin plunger, IEEE 802.15.4 radio specification              |

## **ADDITIONAL INFORMATION**

The following associated literature is available on the Honeywell web site at sensing.honeywell.com:

- Product installation and technical manual (32307000)
- Product range guide
- Product nomenclature tree
- Limitless™ product brochure
- Product application-specific information
  - Application flyer: Increase employee safety with layers of protection: Limitless<sup>™</sup> safety shower and eye wash alarm solutions
  - Application note: Limitless<sup>™</sup> wireless hazardous location switch for grain handling
  - Application note: Limitless<sup>™</sup> wireless hazardous location switch for valve position detection
  - White paper: Wireless switches offer unlimited benefits

### Find out more

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.

To learn more about Honeywell's sensing and control products, call **+1-815-235-6847 or 1-800-537-6945**, visit **sensing.honeywell.com,** or e-mail inquiries to **info.sc@honeywell.com** 

Sensing and Control Honeywell 1985 Douglas Drive North Golden Valley, MN 55422 honeywell.com

## **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.

## **WARNING** MISUSE OF DOCUMENTATION

- The information presented in this product sheet 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.

### 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 website, 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.

32305328-1-EN IL50 GLO July 2015 Copyright @ 2015 Honeywell International Inc. All rights reserved.



# **X-ON Electronics**

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Limit Switches category:

Click to view products by Honeywell manufacturer:

Other Similar products are found below :

 6LS2-4PG
 5ML1-E1
 5ML31
 LZG1
 LZL1-6C
 622EN114-R
 622EN18-6
 622EN230
 622EN237-R
 622EN69-3
 622EN85-RB

 MA-10019
 6PA109
 7LS51
 83547001
 83725002
 83830001
 83840001
 83841001
 83870104
 83881140
 8AS42
 8LS10
 8LS125 

 4PG
 8LS152-4PGN20
 914CE16-3A
 914CE16-AQ
 914CE3-3L1
 915PA10
 91MCE16-P2O
 924CE16-Y3
 924CE1-S6
 924CE1-T25A

 924CE1-T3
 924CE1-T9A
 924CE2-T9
 924CE31-Y20-X5
 924CE31-Y3L1
 GL-10054
 GL-85710
 GL-85714
 GLAB26J2B
 GLDB03C-6

 GLZ324
 PS21R-NT11N7-YK0
 D4A-1106N
 D4A1201N
 D4A-3E02N