



# Wireless Global Limit Switch (EN 50041) Limitless™ Switch

## DESCRIPTION

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.

## FEATURES

### Wireless design

- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-to-point
- FCC 15, IC, ACMA & ETSI
- RoHS Compliant
- 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

### Mechanical design

- 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

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.

## BENEFITS

- 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

## POTENTIAL APPLICATIONS

- |                                |                                 |
|--------------------------------|---------------------------------|
| • Valve position               | • Construction/Ag machines      |
| • Crane boom/jib/skew position | • Conveyors                     |
| • Lifts                        | • Remote or temporary equipment |
| • Material handling            | • Movable machinery             |
| • Presses                      | • Grain diverters or flaps      |
|                                | • Door position                 |
|                                | • Hose attachment verification  |
|                                | • Specialty machines            |

# Limitless™ Series

Description	Parameter
<b>Series name</b>	WGLA Series
<b>Product type</b>	Limitless™ Global Limit Switches
<b>Availability</b>	Global, license-free bands
<b>Operating Characteristics</b>	Reference wireless global limit switch specifications (WGLA Series)
<b>Actuator</b>	Side rotary, top plunger, top roller, top roller lever
<b>Lever type</b>	Rotary lever included w/side rotary– other lever options available
<b>Housing material</b>	Powder coated zinc die-cast
<b>Housing type</b>	EN 50041
<b>Radio</b>	WPAN 802.15.4; 2.4GHz
<b>Antenna type</b>	Direct or remote mount antenna options; Omni directional
<b>Signal range</b>	Nominal 304 m* for International use (Europe and Australia due to signal restrictions); Nominal 1000 ft* for use in US and Canada *clear line of sight between Limitless™ switch and monitor/receiver when using 2.2 dBi integral antenna
<b>Battery</b>	3.6 Vdc Lithium Thionyl Chloride; 2/3 AA size (Est. life >1yr) Manufactured by Uniwell, part number DEV-10-0009
<b>Sealing</b>	IP67; NEMA 1, 4, 12, 13
<b>EMC</b>	Latest applicable standards: EN 300 328, V1.7.1; EN 61326-1 (2006); EN 301 489-1, V1.8.1; EN 301 489-17, V2.1.1
<b>Shock</b>	IEC 60068-2-27; half sine, 10 g, 6 mS, 3 axis
<b>Vibration</b>	IEC 60068-2-6; 10-500Hz w/ 0,35 mm peak-to-peak, 58-500 Hz- 5g
<b>Operating temperature</b>	-40 °C to 85 °C [-40 °F to 185 °F] (side rotary) -25 °C to 85 °C [-13 °F to 185 °F] (all other housing styles)
<b>Agency approvals and standards</b>	FCC 15.247 Industry Canada RSS 210 ETSI, CE mark ACMA, C-Tick mark
<b>UNSPSC code</b>	20142601
<b>UNSPSC commodity</b>	20142601
<b>Sealed</b>	Industrial

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

# Wireless Limit Switches

## NOMENCLATURE TREE (Not all configurations are immediately available.)

WGLA	1	A	00	A	A	1	A-	3	— — —
Switch type	Software version	RF Code	Antenna type code	Country use code	Head code	Lever code	Roller code mm [in]	Modification code	Specials
WGLA Series Wireless	1 Version 1	A 2.4 GHz; IEEE 802.15.4	00 No antenna; RP-SMA connector jack 01 2.2 dBi omni with switch mount; straight design 02 2.2 dBi omni with switch mount; tilt and swivel design 03 3.0 dBi omni with remote adhesive mount/9.8 ft cable 04 5.5 dBi omni w/ remote mag. mount, tilt&swivel/5 ft cable 05 5.5 dBi omni w/ remote mag. mount, tilt&swivel/10ft cable 06 9.0 dBi omni w/ remote mag. mount, tilt&swivel/5 ft cable 07 9.0 dBi omni w/ remote mag. mount, tilt&swivel/10ft cable 08 8.0 dBi omni w/ remote bkt. mount, str. design/3 ft cable 09 8.0 dBi omni w/ remote bkt. mount, str. design/11 ft cable 10 2.2 dBi omni w/ remote mag. mount, tilt&swivel/10 ft cable	A US, Canada B European Countries* C Australia	A Side rotary, momentary B Top pin plunger C Top roller plunger D Top roller lever	Not applicable 1 Std. fixed length 2 Adjustable roller 3 Yoke roller 4 Adjustable rod 5 Offset	Not applicable A 19 x 6.35 [0.75 x 0.25] nylon B 19 x 6.35 [0.75 x 0.25] steel D 38.1 x 6.35 [1.5 x 0.25] nylon J 200 mm aluminum adjustable rod K 140 mm aluminum adjustable rod N 318 mm stainless steel adjustable rod W 40.0 x 12.7 [1.5 x 0.5] rubber Y 50.8 x 12.7 [2.0 x 0.5] rubber T 19 x 8.75 [0.75 x 0.345] stainless steel	Not applicable 3 Head assembled with actuator to right side 4 Head assembled with actuator to left side 5 Head assembled with actuator to mounting surface 6 Roller perpendicular to mounting surface	Use only if switch has a special feature.

\*Antenna type codes 00 - 03, 05, 10; usage also allowed in Country Codes A & C.

## Monitor Nomenclature

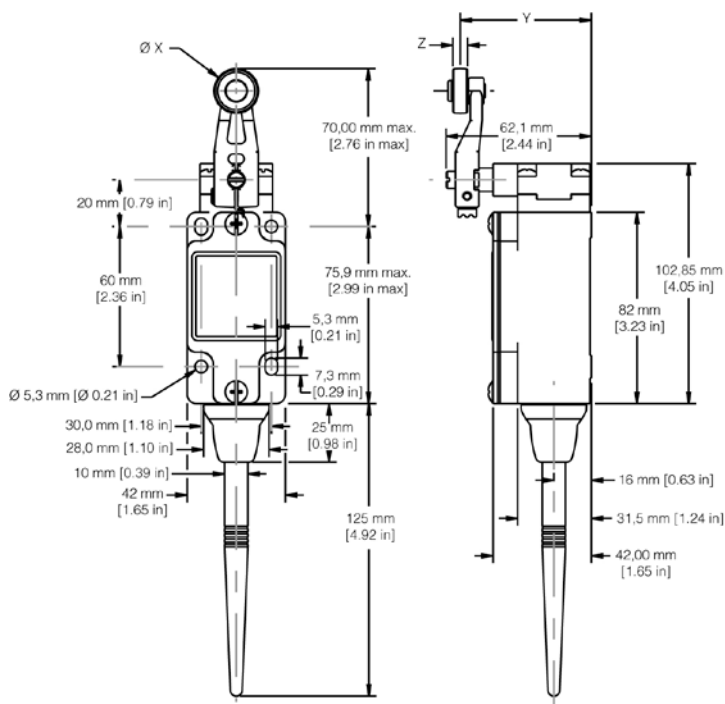
WPMM	1	A	00	A	— — —
Monitor type	Software version	RF Code	Antenna type code	Country use code	Specials
WPMM Series Monitor	1 Version 1	A 2.4 GHz; IEEE 802.15.4	00 No antenna; RP-SMA connector jack 01 2.2 dBi omni with switch mount; straight design 02 2.2 dBi omni with switch mount; tilt and swivel design 03 3.0 dBi omni with remote adhesive mount/9.8 ft cable 04 5.5 dBi omni w/ remote mag. mount, tilt&swivel/5 ft cable 05 5.5 dBi omni w/ remote mag. mount, tilt&swivel/10ft cable 06 9.0 dBi omni w/ remote mag. mount, tilt&swivel/5 ft cable 07 9.0 dBi omni w/ remote mag. mount, tilt&swivel/10ft cable 08 8.0 dBi omni w/ remote bkt. mount, str. design/3 ft cable 09 8.0 dBi omni w/ remote bkt. mount, str. design/11 ft cable 10 2.2 dBi omni w/ remote mag. mount, tilt&swivel/10 ft cable	A US, Canada B European Countries* C Australia	Use only if monitor has a special feature.

\*Antenna type codes 00-03, 05, 10; usage also allowed in country codes A & C.

# Limitless™ Series

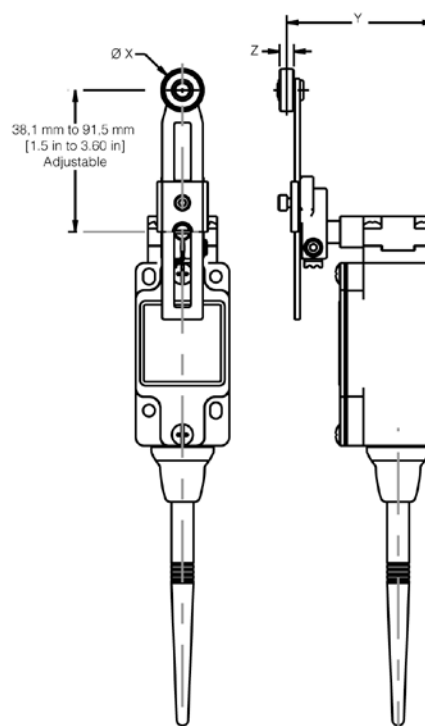
## DIMENSIONS

### Side Rotary Head with GLZ51 Series Lever



Lever	Roller Material	X Dim	Y Dim	Z Dim
GLZ51A	Nylon	19,1 mm [0.75 in]	55,9 mm [2.2 in]	6,4 mm [0.25 in]
GLZ51B	Steel	19,1 mm [0.75 in]	55,9 mm [2.2 in]	6,4 mm [0.25 in]
GLZ51T	Stainless Steel	19,1 mm [0.75 in]	56,8 mm [2.24 in]	8,8 mm [0.35 in]
GLZ51Y	Rubber	50,0 mm [1.97 in]	66,1 mm [2.60 in]	10,0 mm [0.39 in]

### Side Rotary Head with GLZ52 Series Lever

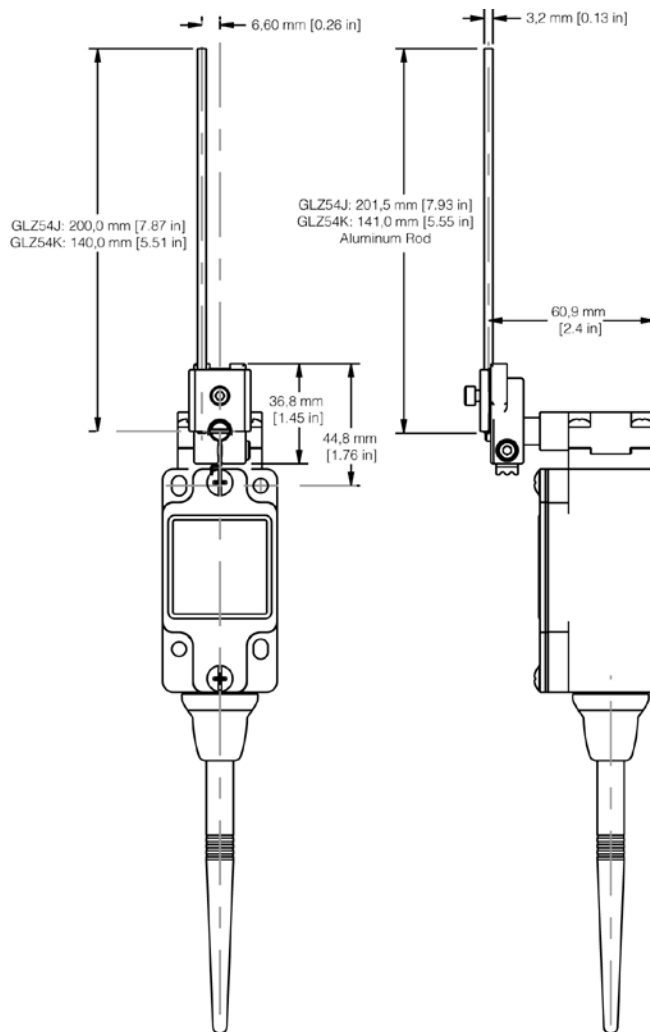


Lever	Roller Material	X Dim	Y Dim	Z Dim
GLZ52A	Nylon	19,1 mm [0.75 in]	65,9 mm [2.59 in]	6,4 mm [0.25 in]
GLZ52B	Steel	19,1 mm [0.75 in]	65,9 mm [2.59 in]	6,4 mm [0.25 in]
GLZ52D	Nylon	38,1 mm [1.5 in]	65,9 mm [2.59 in]	6,4 mm [0.25 in]
GLZ52E	Nylon	19,1 mm [0.75 in]	79,4 mm [3.13 in]	33,1 mm [1.30 in]
GLZ52W	Rubber	40,0 mm [1.57 in]	71,5 mm [2.81 in]	12,7 mm [0.5 in]
GLZ52Y	Rubber	50,0 mm [1.97 in]	68,8 mm [2.71 in]	10,0 mm [0.39 in]

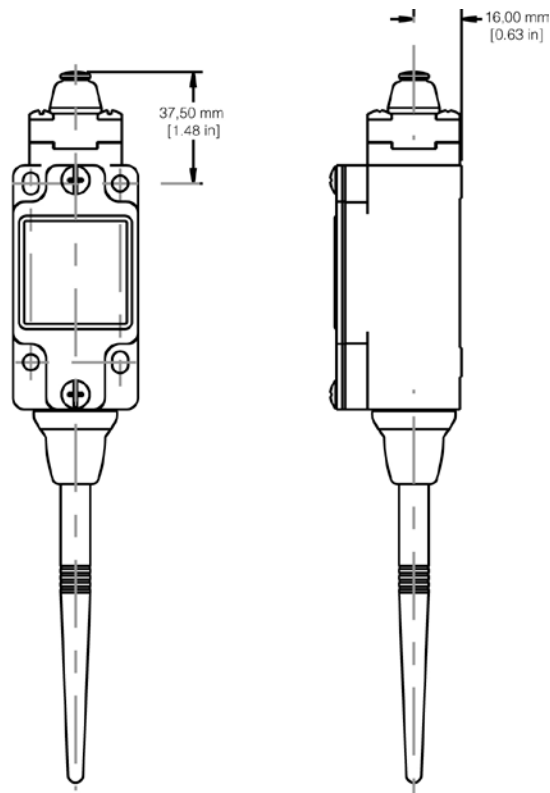
# Wireless Limit Switches

## DIMENSIONS

### Side Rotary Head with GLZ54 Series Lever



### Top Pin Plunger Head



# Limitless™ Series

## STANDARD WGLA LISTINGS

Part Number	Description
WGLA1A01AA1A	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] nylon roller
WGLA1A01AA1B	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] steel roller
WGLA1A01AA4J	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, side rotary – momentary, 200 mm aluminum adjustable rod actuator
WGLA1A01AB	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, top pin plunger
WGLA1A01AC	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, top roller plunger
WGLA1A01AD	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni straight antenna, use in US/Canada, top roller lever
WGLA1A02AA1A	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] nylon roller
WGLA1A02AA1B	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] steel roller
WGLA1A02AA4J	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, side rotary – momentary, 200 mm aluminum adjustable rod actuator
WGLA1A02AB	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, top pin plunger
WGLA1A02AC	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, top roller plunger
WGLA1A02AD	Limitless™ Series WGLA Global Limit Switch, 2.2 dBi omni tilt & swivel antenna, use in US/Canada, top roller lever
WGLA1A04AA1A	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] nylon roller
WGLA1A04AA1B	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, side rotary – momentary, standard lever with 19 mm x 6,35 mm [0.75 in x 0.25 in] steel roller
WGLA1A04AA4J	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, side rotary – momentary, 200 mm aluminum adjustable rod actuator
WGLA1A04AB	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, top pin plunger
WGLA1A04AC	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, top roller plunger
WGLA1A04AD	Limitless™ Series WGLA Global Limit Switch, 5.5 dBi omni remote magnetic mount/tilt & swivel antenna with 5ft of cable, use in US/Canada, top roller lever

# Wireless Limit Switches

## ACCESSORIES NOMENCLATURE

### Antenna Nomenclature

WAN	01	RSP	— — —
Antenna type	Antenna type code	Connector Code	Specials
<b>WAN Series</b> Antenna	<b>01</b> 2.2 dBi omni; straight design <b>02</b> 2.2 dBi omni; tilt & swivel des. <b>03</b> 3.0 dBi omni with adhesive mount & 9.8 ft cable <b>04</b> 5.5 dBi omni;*** tilt & swivel des. <b>05</b> 9.0 dBi omni;*** tilt & swivel des. <b>06</b> 8.0 dBi omni w/ bracket, straight des. 1 ft cable	<b>RNJ</b> Reverse polarity N jack** <b>RSP</b> Reverse polarity SMA plug	Use only if antenna has a special feature.

\*\* Only used with 06 antenna type code  
 \*\*\* Limited outdoor exposure. Protect against direct rain, salt, snow, ice, etc.

### Limitless™ Antennas

WAN01RSP Straight Design Direct Mount Connector	WAN02RSP Tilt and Swivel Design, Direct Mount Antenna	WAN05RSP with WAMM100RSP-005 Tilt and Swivel Design, Magnetic Mount Antenna	WAN03RSP Flat Design, Adhesive Mount Antenna	WAN06RNJ Straight Design, Bracket Mount Antenna
				



# Limitless™ Series

## Cable Assembly Nomenclature

WCA	200	RNP	RSP-	010	— — —
Cable type	Cable Type	Connector Code	Connector Code	Length Code	Specials
WCA Series Cable	200 200 Series Coax	RNP Reverse polarity N plug	RSP Reverse polarity SMA plug	Not applicable 002 2 ft cable length 010 10 ft cable length	Use only if cable has a special feature.

## Limitless™ Cable Accessories

### WCA200RNPRSP-002/010 Cable Assembly



## Antenna Mounting Nomenclature

WAM	M	100	RSP-	005	— — —
Mounting	Type Code	Cable Type	Connector Code	Length Code	Specials
WAM Series Antenna Mount	M Magnetic	100 100 Series Coax	RSP Reverse polarity SMA plug	Not applicable 005 5 ft cable length 010 10 ft cable length	Use only if mount has a special feature.

## Limitless™ Panel Mount Accessories

### WAMM100RSP-005/010 Magnetic Antenna Mount





# Wireless Limit Switches

## STANDARD ACCESSORIES

Part Number	Description
WAN03RSP	Flat wireless antenna with 3 dBi gain, reverse polarity SMA plug, adhesive mount with 10 ft of cable
WAN06RNJ	Straight wireless antenna with 8 dBi gain, reverse polarity N jack, bracket mount with 1 ft of cable
WAN01RSP	Straight wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN02RSP	Tilt/swivel wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN04RSP	Tilt/swivel wireless antenna with 5.5 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN05RSP	Tilt/swivel wireless antenna with 9 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WCA200RNPRSP-002	200 Series coax cable assembly, reverse polarity N plug, reverse polarity SMA plug, 2 ft of cable
WCA200RNPRSP-010	200 Series coax cable assembly, reverse polarity N plug, reverse polarity SMA plug, 10 ft of cable
WAMM100RSP-005	Magnetic antenna mounting, 100 Series coax cable, reverse polarity SMA plug with 5 ft of cable
WAMM100RSP-010	Magnetic antenna mounting, 100 Series coax cable, reverse polarity SMA plug with 10 ft of cable

## **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.**

## **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.

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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.

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.

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