

Imagine a world without wires.
What would you do with more freedom?



It's time to retire the wire. To give your best ideas free rein.

Honeywell's Limitless™ Series of wireless limit switches and receivers allows you to go farther, work smarter, and explore more possibilities than ever before.

Honeywell's Limitless™ series of switch solutions is leading the way. Honeywell Sensing and Control developed this technology to be a cutting-edge, cost-saving solution. That innovation starts whether you're retrofitting into an existing industrial or transportation application, or starting a new design. Now you have the freedom to push your designs and applications further and expand your vision.

For far too long, technology has been tied to the same old way of transmitting and connecting. But there's a price to pay for clinging to wired technology. There's an intangible cost in man-hours and missed production hours. And there are tangible costs — actual wear-and tear on equipment wiring and connections that can cause complete disruption of your operation.

Imagine how much could be saved once your best ideas were given free rein...



# WGLA Global Limit Switches WLS Heavy-Duty Limit Switches

Honeywell's Limitless™ product line combines the best of Honeywell's global limit switches with the latest commercial state-of-the-art wireless technology. Wireless-enabled limit switches can 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 for machines, equipment, OEMs, and operators.

#### **FEATURES**

#### Wireless Design

- Radio (license-free and global\*): WPAN 802.15.4, 2.4 GHz, point-to-point
- FCC 15, IC, ACMA, COFETEL, IDA, ETSI, WPC, SRRC, KCC, and ANATEL (see specific product series for applicable approvals)
- RoHS compliant
- EMI resistance protects against external interference
- In excess of 305 m [1000 ft] line-ofsight communication
- Reliable, flexible, and secure wireless transmission
- Standard replaceable battery with ultra-low power consumption
- Direct or remote mount antenna options

#### **WGLA Series Features**

- EN50041 metal enclosure
- IP67; NEMA 1,4,12,13
- Multiple operating heads and lever options
- Modular construction of components

#### **WLS Series Features**

- EN 50041 metal enclosure
- IP67/IP68; NEMA 1, 3, 4, 6, 6P, 12, 13
- Unique all-metal drive train
- Twin shaft seals (rotary)
- Zinc head and body are phosphate treated and epoxy finished making it less susceptible to effects from environmental exposure
- Full complement of operating heads and levers
- Chemical resistant fluorocarbon seals (optional)

#### **BENEFITS**

- Enables wireless presence/absence detection in applications/machinery where wiring is challenging or not feasible
- Integration of existing wireless technology with the superior reliability of Honeywell's MICRO SWITCH™ limit switch series
- Ability to reconfigure and network multiple switches, easily allowing addition, subtraction or relocation of Limitless™ switches in the application
- Reduces installation/maintenance costs with no wires, conduit, strain relief, clips, connectors, or connection boxes
- Output options
  - Panel-mount monitor: visual, audible (buzzer), one NPN output
  - DIN-mount receiver: visual, 14 NPN/PNP-type outputs
- Consumes ultra-low power to prolong battery life (replaceable)
- RF board operating in 2.4 GHz globally license-free frequency band; WPAN 802.15.4
- SIL reliability data available upon request

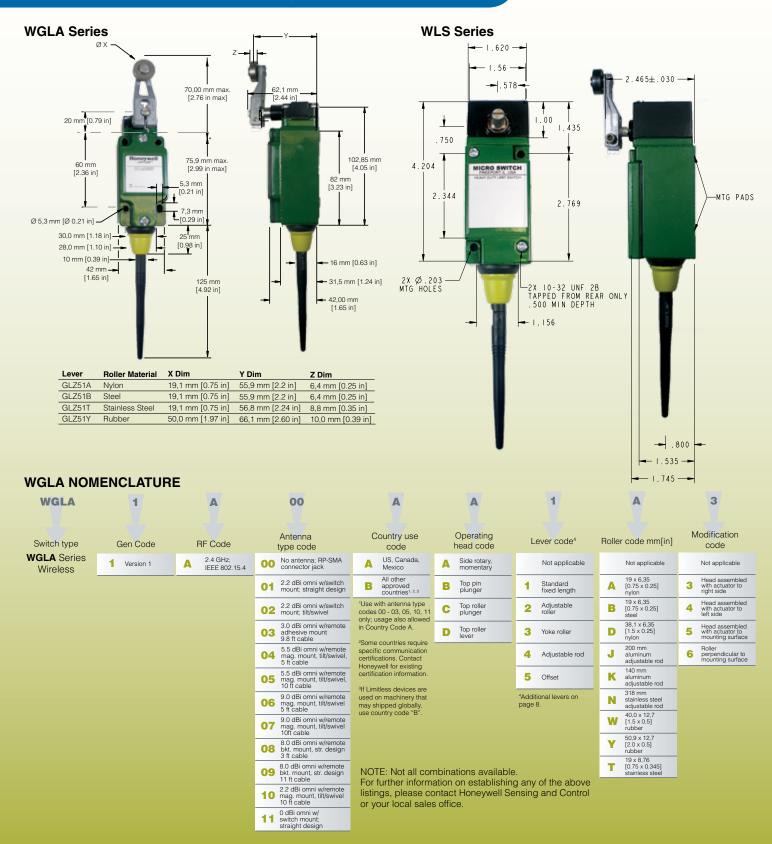


#### **APPLICATIONS**

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



# WGLA and WLS Series Dimensions and Ordering Options



#### **WLS NOMENCLATURE**



Wireless



Version 1



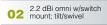


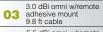
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5.5 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable 04 5.5 dBi omni w/remote mag. mount, tilt/swivel 10ft cable 05

9.0 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable

9.0 dBi omni w/remote mag. mount, tilt/swivel 10ft cable 07

8.0 dBi omni w/remote bkt. mount, str. design 3 ft cable 08 8.0 dBi omni w/remote bkt. mount, str. design 11 ft cable

2.2 dBi omni w/remote mag. mount, tilt/swivel 10 ft cable 10

0 dBi omni w/ 11 straight design





US, Canada, Mexico All other В

approved countries1, 2, 3 <sup>1</sup>Use with antenna type codes 00 - 03, 05, 10, 11 only; usage also allowed in Country Code A.

<sup>2</sup>Some countries require specific communication certifications. Contact Honeywell for existing certification information.

3If Limitless devices are used on machinery that may shipped globally, use country code "B"



head code

Side rotary, momentary Top plunger, plain

Top plunger,

Side plunger, momentary E

Wobble stick⁴

Side rotary, maintained N V

C

<sup>4</sup>See page 14 for



Actuators for operating

Order actuator catalog listing separately for reduced delivery time.

head code "A" only, insert actuator code from table below.

OR

Modification code

3

See WLS actuator code table for details. Not applicable

> Head assembled with actuator to right side 3 Head assembled with actuator to left side 4

Head assembled with actuator to mounting surface 5

6 perpendicular to mounting surface

NOTE: Not all combinations available. For further information on establishing any of the above listings, please contact Honeywell Sensing and Control or your local sales office.

#### EXAMPLE: WLS1A01AA1A (ordered with lever included)

Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, standard lever with nylon roller

#### EXAMPLE: WLS1A01AA (order lever separately)

Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary. LSZ51A (standard lever with nylon roller) ordered separately,

#### WLS SERIES ACTUATOR CODE TABLE (see page 9 for more detail)

Code	Catalog Listing	Material	Roller Dia. (in)	Roller Width (in)	Roller Mounting
Fixed 1	I.5 inch radiu	s			
1		Rollerless	n/a	n/a	n/a
1A	LSZ51A	Nylon	0.75	0.25	Front
1B	LSZ51B	Steel	0.75	0.25	Front
1C	LSZ51C	Nylon	0.75	0.25	Back
1D	LSZ51D	Steel	0.75	0.25	Back
1F	LSZ51F	Nylon	1.0	0.520	Front
1G	LSZ51G	Nylon	1.5	0.25	Front
1J	LSZ51J	Nylon	1.0	0.520	Back
1L	LSZ51L	Ball bearing	0.75	0.25	Back
1M	LSZ51M	Nylon	0.75	1.25	Back
1N	LSZ51N	Steel	0.75	1.25	Front
1P	LSZ51P	Nylon	0.75	0.50	Front
Adjust	able 1.5 in to	3.5 in radius			
2		Rollerless	n/a	n/a	n/a
2A	LSZ52A	Nylon	0.75	0.25	Back
2B	LSZ52B	Steel	0.75	0.25	Back
2C	LSZ52C	Nylon	0.75	0.25	Front
2D	LSZ52D	Steel	0.75	0.25	Front
2E	LSZ52E	Nylon	0.75	1.30	Front
2J	LSZ52J	Nylon	1.0	0.50	Front
2K	LSZ52K	Nylon	1.5	0.25	Front
2L	LSZ52L	Ball bearing	0.75	0.25	Front
2M	LSZ52M	Nylon	2.0	0.25	Front
2N	LSZ52N	Nylon	0.75	0.50	Front
Yoke -	1.5 in radius				
3A	LSZ53A	Nylon	0.75	0.25	Front/Back
3B	LSZ53B	Steel	0.75	0.25	Front/Back
3D	LSZ53D	Steel	0.75	0.25	Front/Front

Code	Catalog Listing	Material	Roller Dia. (in)	Roller Width (in)	Roller Mounting
Yoke -	1.5 in radius ,	continued			
3E	LSZ53E	Nylon	0.75	0.25	Back/Front
3M	LSZ53M	Nylon	0.75	1.25	Back/Front
3P	LSZ53P	Steel	0.75	0.25	Back/Back
3S	LSZ53S	Nylon	0.75	0.25	Back/Back
Rod					
4		Hub only	n/a	n/a	n/a
4M	LSZ54M	Alum, 5.5 in	n/a	n/a	n/a
4N	LSZ54N	Stainless, 13 in	n/a	n/a	n/a
4R	LSZ54R	Spring Wire, 12 in	n/a	n/a	n/a
4V	LSZ54V	Flex cable, 4.8 in	n/a	n/a	n/a
Offset -	- 1.5 in radius				
5		Rollerless	n/a	n/a	n/a
5A	LSZ55A	Nylon	0.75	0.25	Back
5B	LSZ55B	Steel	0.75	0.25	Back
5C	LSZ55C	Nylon	0.75	0.25	Front
5D	LSZ55D	Steel	0.75	0.25	Front
5E	LSZ55E	Nylon	0.75	0.50	Front
5K	LSZ55K	Nylon	1.5	0.25	Front
Wobble	stick				
7A	LSZ1JGA	Delrin™ rod, 5.5	n/a	n/a	n/a
7M	LSZ1JGM	Spring wire, 13.0	n/a	n/a	n/a
7N	LSZ1JGN	Cable, 5.5 in.	n/a	n/a	n/a
Short fi	ixed - 1.3 in ra	dius			
9A	LSZ59A	Nylon	0.75	0.25	Front
9B	LSZ59B	Steel	0.75	0.25	Front
9C	LSZ59C	Nylon	0.75	0.25	Back
9D	LSZ59D	Steel	0.75	0.25	Back

**WGLA Series** 

Levers







fixed rotary offset lever, nylon roller,



fixed rotary offset lever, steel roller, front



















**WLS Series** 

Levers



nylon roller, front

fixed rotary lever,

steel roller, front



LSZ51C fixed rotary lever, nylon roller, back



LSZ51D fixed rotary lever, steel roller, back



LSZ54R 6-inch 12-inch spring wire



LSZ55A through D offset lever, front & back



one-way roller lever



LSZ53A through D yoke lever, nylon and steel rollers, front and back placement



LSZ52A through D adj. lever, nylon & steel, front/back



LSZ52J adjustable lever, 1-inch nylon roller



adjustable lever, 1.5-inch nylon roller







# WLS Heavy-Duty Limit Switch with Eyelet Pull

Limitless™ WLS Series Heavy Duty Wireless Limit Switches with an eyelet-pull operating head can be used to attach a rope, cable or chain. It also can be used on cranes as an anti-two-block (A2B) switch. The Limitless™ Series benefits 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.

#### **FEATURES**

#### Wireless Design

- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-topoint
- FCC 15, IC, ACMA, ETSI, COFETEL, WPC, IDA, ANATEL, SRRC, and KCC
- Up to 1000 ft [305 m] line of sight communication range when used with a Limitless™ WPMM Series wireless monitor or WDRR Series receiver module (sold separately)
- Reliable, flexible, and secure wireless transmission
- Long-life standard replaceable battery
- Direct or remote mount antenna options

#### **Mechanical Design**

- IP67/IP68; NEMA 1, 4, 6, 6P, 12, 13
- Unique all-metal drive train
- Zinc head and body are phosphate treated and epoxy finished
- Tested to 750 lb of pull force
- Captive head and body screws

#### **BENEFITS**

- Enables presence/absence detection in remote parts of application/ machinery, where wiring is an issue or not feasible
- Ability to reconfigure multiple switches that easily allows for adding, subtracting or relocating Limitless™ WLS switches
- Reduces installation/maintenance costs with no wires, conduit, strain relief, clips, connectors, or connection boxes
- Eliminates issues with wire connection integrity on moving equipment
- Consumes ultra-low power to prolong battery life



#### **APPLICATIONS**

- Cranes: A2B (anti-two block) switch
- Rope-pull: door activation switch
- Cable pull for production stop applications (e.g., quality, broken tool, maintenance, out of parts); not applicable to human safety-stop applications

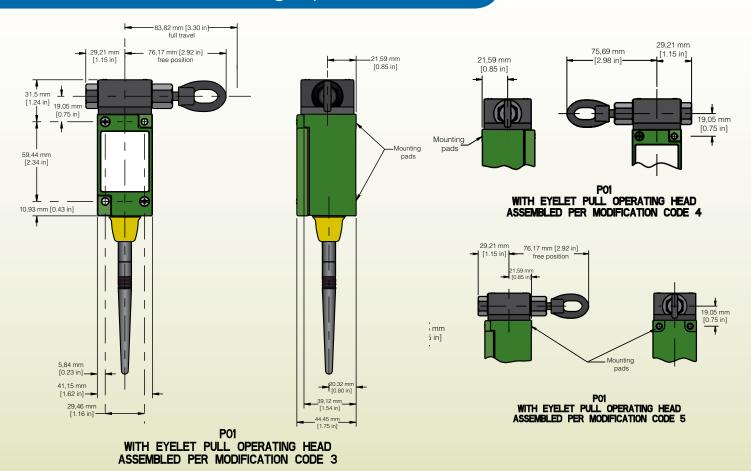


### **WLS Series with Eyelet Pull**

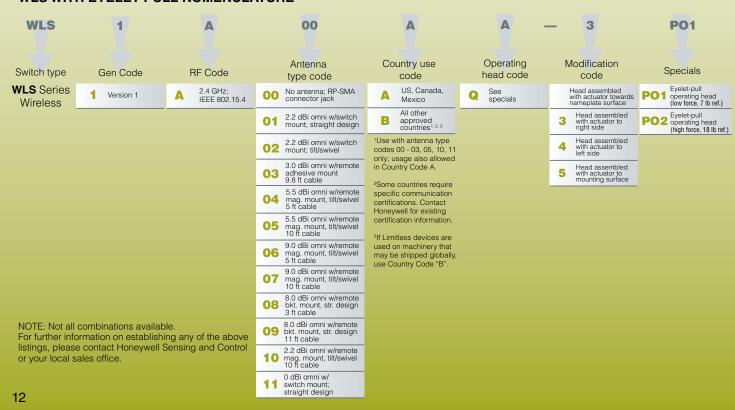
Product type	Limitless™ Wireless Heavy-Duty Limit Switches		
Availability	Global, license-free bands		
Operating characteristics	Operating force: 7 lb approx. or 18 lb approx.		
Actuator type Eyelet-pull operating head (pull eyelet in-line with shaft to prevent damage)			
Housing material Zinc head and body are phosphate treated and epoxy finished			
Radio	WPAN 802.15.4; 2.4 GHz		
Antenna type	RP-SMA jack for direct or remote mount antenna options; omni-directional		
Signal range	In excess of 305 m [1000 ft] line-of-sight communication between Limitless™ switches and monitor/receiver when using 2.2 dBi integral antenna		
Battery	3.6 Vdc Lithium Thionyl Chloride; 2/3 AA size (Est. life >1yr) Manufactured by Green Energy, part number ER14335M		
Sealing	IP67/IP68; NEMA 1, 4, 6, 6P, 12, 13		
EMC	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			
Vibration	IEC 60068-2-6; 10-500Hz w/ 0,35 mm peak-to-peak, 58-500 Hz- 5g		
Operating temperature	-40 °C to 85 °C [-40 °F to 185 °F]		
Agency approvals and standards	- FCC 15.247: United States of America - IC RSS 210: Canada - ETSI, CE mark: European countries - ACMA, C-TICK: Australia, New Zealand - IDA: Singapore - COFETEL: Mexico - WPC: India - ANATEL: Brazil - SRRC: China - KCC: South Korea		

# **Limitless™ Wireless Heavy-Duty Limit Switch with Eyelet Pull**

Dimensions and Ordering Options



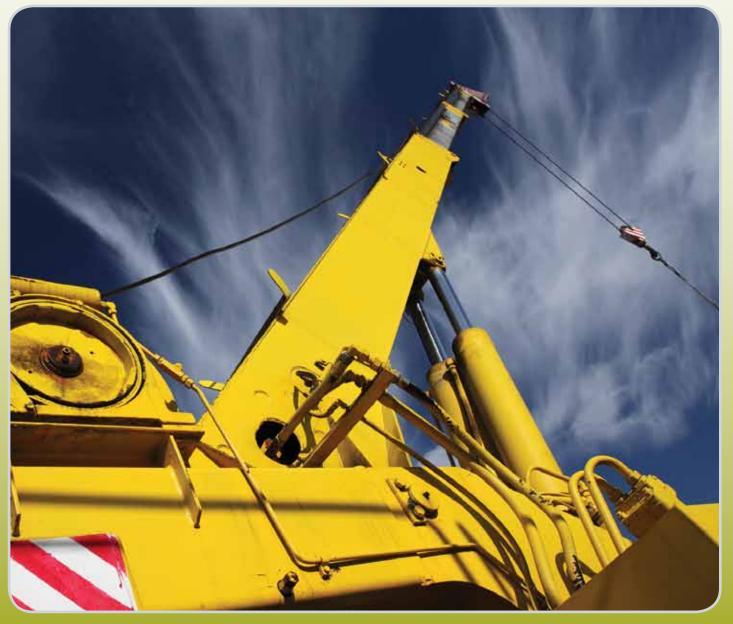
#### WLS WITH EYELET PULL NOMENCLATURE



# Limitless™ Wireless Heavy-Duty Limit Switch with Eyelet Pull

Standard Listings

Limitless™ WLS Series with Eyelet Pull for use in US/Canada				
WLS	1A11	A	Q-4P01	Limitless™ WLS Series heavy-duty limit switch with 7 lb low-force eyelet pull operating head, head assembled with actuator to left side, 0 dBi omni antenna
WLS	1A11	A	Q-P01	Limitless™ WLS Series heavy-duty limit switch with 7 lb low-force eyelet pull operating head, head assembled with actuator to label side, 0 dBi omni antenna
WLS	1A11	A	Q-P02	Limitless™ WLS Series heavy-duty limit switch with 18 lb high-force eyelet pull operating head, head assembled with actuator to label side, 0 dBi omni antenna
Limitless	™ WLS Se	eries	with Eyele	et Pull for use in all other approved countries
WLS	1A11	В	Q-4P01	Limitless™ WLS Series heavy-duty limit switch with 7 lb low-force eyelet pull operating head, head assembled with actuator to left side, 0 dBi omni antenna
WLS	1A11	В	Q-P01	Limitless™ WLS Series heavy-duty limit switch with 7 lb low-force eyelet pull operating head, head assembled with actuator to label side, 0 dBi omni antenna
WLS	1A11	В	Q-P02	Limitless™ WLS Series heavy-duty limit switch with 18 lb high-force eyelet pull operating head, head assembled with actuator to label side, 0 dBi omni antenna



# WLS Heavy-Duty Limit Switch Single Switch Adapter

Honeywell's Limitless™ product line uses the latest commercial off-the-shelf wireless technology and has expanded the WLS Series to convert almost any electromechanical switch with low-energy contacts (i.e., gold) into a wireless switch. A user-supplied electromechanical switch is simply wired to the WLS Series Single Switch Adapter via the internal or external connections to then become a wireless-enabled switch for use with the Limitless™ WPMM or WDRR Series of monitors/receivers. The Limitless™ Single Switch Adapter can be used in a variety of industrial wireless limit switch applications such as reed, contact, pressure, door actuator, etc.

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.

#### **FEATURES**

#### Wireless Design

- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-topoint
- FCC 15, IC, ACMA, ETSI, COFETEL, WPC & IDA
- Up to 305 m [1000 ft] line-of-sight communication range when used with a Limitless<sup>™</sup> WPMM Series wireless monitor or WDRR Series 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**

- IP67; NEMA 1, 4, 12, 13
- 4 PIN M12 micro-change receptacle, cable grip with internal connector wiring options
- Internal battery power
- Body phosphate treated and epoxy finished with a 30 % glass-filled PBT plastic head

#### **BENEFITS**

- Allows almost any type of electromechanical switch with low-energy contacts (i.e., gold) to become "wireless"
- Enables presence/absence detection in remote parts of application/machinery, where wiring is an issue or not feasible
- Ability to reconfigure multiple switches, which easily allows for adding, subtracting or relocating of the Limitless™ WLS Single Switch Adapters
- 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



#### **APPLICATIONS**

- Agricultural equipment
- Construction equipment
- Door actuation (up/down) switch
- Industrial machines
- Lifts
- Machine tools
- Packaging machinery
- Wireless warehouse operations
- Wireless electromechanical switch applications (i.e., pressure switch, reed switch, basic switch and/or limit switch)



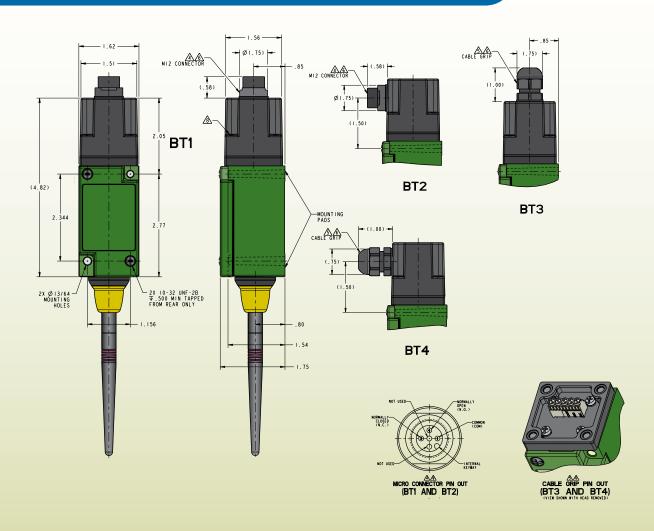
### **WLS Series Single Switch Adapter**

Product type	Limitless™ Single Switch Adapter
Availability	Global, license-free bands
Housing material	Zinc body is phosphate treated and epoxy filled; 30 % glass-filled PBT plastic head
<b>Radio</b> WPAN 802.15.4; 2.4 GHz	
Antenna type	RP-SMA jack for direct or remote mount antenna options; omni directional standard
Signal range  Nominal 305 m [1000 ft] clear line of sight between Limitless™ switch and monitor/receiver w dBi integral antennas	
Battery  3.6 Vdc Lithium Thionyl Chloride; 2/3 AA size (Est. life >1yr) Manufactured by Green Energy, part number ER14335M	
Sealing	IP67, NEMA 1, 4, 12, 13
EMC	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
Shock	IEC 60068-2-27; half sine, 50 g, 6 mS, 3 axis
Vibration	IEC 60068-2-6; 10-500Hz w/ 0,35 mm peak-to-peak, 58-500 Hz- 10g
Operating -40 °C to 85 °C [-40 °F to 185 °F]	
Electromechanical switch	SPDT (Form C) switch with low-energy contacts (i.e., gold) capable of reliably controlling a 3.6 Vdc @ 30 mA electrical load to ensure proper operation
Electrical connections	<ul> <li>4-pin M12 micro-connector with three-pole, single keyway female receptacle</li> <li>Cable grip with internal screw connector</li> <li>Note: Maximum cable length 3 m [9.84 ft]</li> </ul>
Communication Agency Approvals/ Certificates*	- FCC 15.247: United Sates of America - IC RSS 210: Canada - COFETEL: Mexico - ETSI, CE mark: European countries - ACMA, C-TICK: Australia - IDA: Singapore - WPC: India

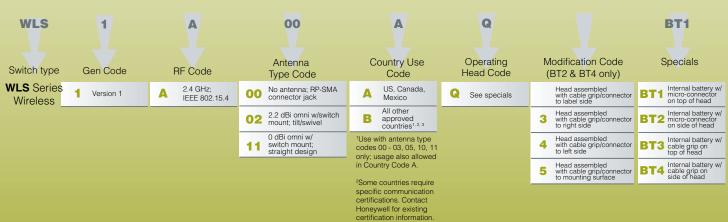
<sup>\*</sup> Honeywell is continuing to add new Country Communication Agency Approvals as opportunities and requirements are established.

## Limitless™ Single Switch Adapter

### Dimensions and Ordering Options



#### WLS SINGLE SWITCH ADAPTER NOMENCLATURE



NOTE: Not all combinations available. For further information on establishing any of the above listings, please contact Honeywell Sensing and Control or your local sales office.

alf Limitless devices are used on machinery that may shipped globally, use country code "B".

# Limitless™ Single Switch Adapter

# Standard Listings

Limitless™ Single Switch Adapter for use in US/Canada				
M12 Con	nector			
WLS	1A00	Α	QBT1	Limitless™ WLS Series Single Switch Adapter, no antenna, internal battery with M12 micro-connector on top of head
WLS	1A02	Α	QBT1	Limitless™ WLS Series Single Switch Adapter, 2.2 dBi tilt/swivel antenna, internal battery with M12 micro-connector on top of head
WLS	1A11	Α	QBT1	Limitless™ WLS Series Single Switch Adapter, 0 dBi straight antenna, internal battery with M12 micro-connector on top of head
Cable Gr	ip			
WLS	1A00	A	QBT3	Limitless™ WLS Series Single Switch Adapter, no antenna, internal battery with cable grip on top of head
WLS	1A02	Α	QBT3	Limitless™ WLS Series Single Switch Adapter, 2.2 dBi tilt/swivel antenna, internal battery with cable grip on top of head
WLS	1A11	Α	QBT3	Limitless™ WLS Series Single Switch Adapter, 0 dBi straight antenna, internal battery with cable grip on top of head
Limitless	™ Single S	Switc	h Adapte	er for use in all other approved countries
M12 Con	nector			
WLS	1A00	В	QBT1	Limitless™ WLS Series Single Switch Adapter, no antenna, internal battery with M12 micro-connector on top of head
WLS	1A02	В	QBT1	Limitless™ WLS Series Single Switch Adapter, 2.2 dBi tilt/swivel antenna, internal battery with M12 micro-connector on top of head
WLS	1A11	В	QBT1	Limitless™ WLS Series Single Switch Adapter, 0 dBi straight antenna, internal battery with M12 micro-connector on top of head
Cable Gr	ip			
WLS	1A00	В	QBT3	Limitless™ WLS Series Single Switch Adapter, no antenna, internal battery with cable grip on top of head
WLS	1A02	В	QBT3	Limitless™ WLS Series Single Switch Adapter, 2.2 dBi tilt/swivel antenna, internal battery with cable grip on top of head
WLS	1A11	В	QBT3	Limitless™ WLS Series Single Switch Adapter, 0 dBi straight antenna, internal battery with cable grip on top of head



### **WLS Series**

### Wireless Non-Contact Switch

Honeywell's Limitless<sup>TM</sup> product line uses the latest commercial off-the-shelf wireless technology. The Limitless<sup>TM</sup> WLS Series is especially beneficial for remote monitoring applications where wiring or wire maintenance is not physically possible or economically feasible. Honeywell has expanded the Limitless<sup>TM</sup> product line with its industrial Wireless Non-Contact Switch that provides non-contact presence/absence detection of a variety of different magnet styles and magnetic actuators installed on the end-users' product, machine, equipment, etc. The Limitless<sup>TM</sup> WLS Non-Contact Switch's design features an industrial grade reed switch. Customers can choose how the reed switch is oriented within the switch's plastic head, i.e., either top- or side-sensing. Combining this greater flexibility with proven harsh-duty packaging can result in increased efficiencies and improved safety for industrial machines, equipment, OEMs, and operators.

#### **FEATURES**

#### Wireless Design

- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-topoint
- FCC 15, IC, ACMA, ETSI, COFETEL, WPC & IDA
- Up to 305 m [1000 ft] line-of-sight communication range when used with a Limitless<sup>TM</sup> wireless monitor or receiver module (sold separately)
- Reliable, flexible, and secure wireless transmission
- Replaceable battery with ultra-low power consumption
- Direct or remote mount antenna options

#### **Mechanical Design**

- IP67; NEMA 1, 4, 12, 13
- Top and side sensing heads
- Zinc head and body are phosphate treated and epoxy finished

#### **BENEFITS**

- Allows "non-contact" actuation
- Enables presence/absence detection in remote parts of application/machinery, where wiring is an issue or not feasible
- Able to reconfigure and network multiple switches, or point-to-point with personalized addresses, which allows for adding, subtracting or relocating of the Limitless™ WLS Non-Contact Switches
- 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



#### **APPLICATIONS**

- Machine tools
- Packaging machinery
- Lifts
- Ag/construction equipment
- Industrial machines



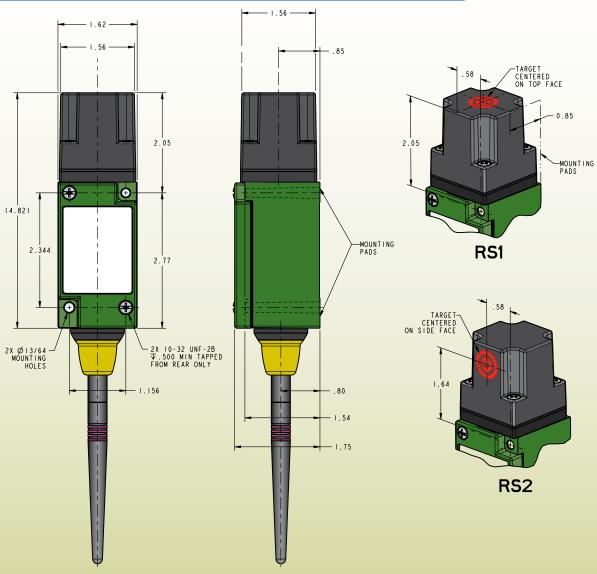
#### **WLS Series Wireless Non-Contact Switch**

	WES Series Wileless Non-Contact Switch
Product type	Limitless™ Wireless Non-Contact Switch
Availability	Global, license-free bands
Operating characteristics	Operating point: 3,81 mm [0.15 in] min.; Release point: 15,24 mm [0.60 in] max. with use of WMG1 magnet (included with WLS Series Non-Contact Switch)
Sensing target	Top and side of head
Housing material	Zinc head and body are phosphate treated and epoxy finished; 30% glass-filled PBT plastic head
Radio	WPAN 802.15.4; 2.4 GHz
Antenna type	RP-SMA jack for direct or remote mount antenna options; omni directional standard
Signal range	Nominal 305 m [1000 ft] Clear line-of-sight between Limitless™ switch and monitor/receiver when using 2.2 dBi integral antenna
Battery	3.6 Vdc Lithium Thionyl Chloride; 2/3 AA size (Est. life >1yr) Manufactured by Green Energy, part number ER14335M
Sealing	IP67; NEMA 1, 4, 12, 13
EMC	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
Shock	EC 60068-2-27; half sine, 10 g, 6 mS, 3 axis
Vibration	IEC 60068-2-6; 10-58 Hz w/ 0,35 mm peak-to-peak - 5g
Operating temperature	-40 to 85 °C [-40 °F to 185 °F]
Communication Agency Approvals/ Certificates*	- FCC 15.247: United Sates of America - IC RSS 210: Canada - COFETEL: Mexico - ETSI, CE mark: European countries - ACMA, C-TICK: Australia - IDA: Singapore - WPC: India

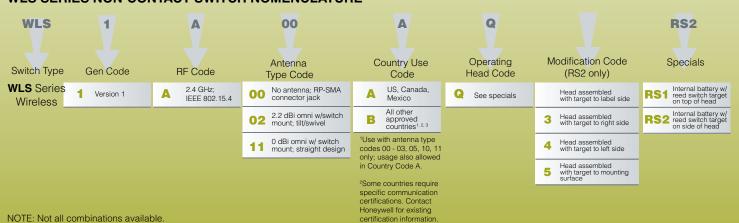
<sup>\*</sup> Honeywell is continuing to add new Country Communication Agency Approvals as opportunities and requirements are established

### Limitless™ Wireless Non-Contact Switch

### Dimensions and Ordering Options



#### WLS SERIES NON-CONTACT SWITCH NOMENCLATURE



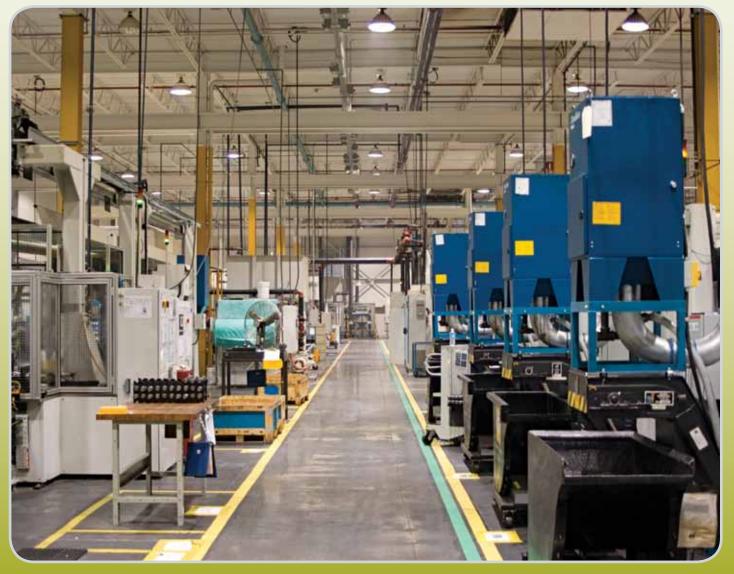
NOTE: Not all combinations available. For further information on establishing any of the above listings, please contact Honeywell Sensing and Control or your local sales office.

<sup>3</sup>If Limitless devices are used on machinery that may shipped globally, use country code "B".

## Limitless™ Wireless Non-Contact Switch

### Standard Listings

Limitless™ Wireless Non-Contact Switch for use in US/Canada					
Top Sens	Top Sensing				
WLS	1A00	Α	QRS1	Limitless™ WLS Series Non-Contact Switch with no antenna and a top sensing target	
WLS	1A11	Α	QRS1	Limitless™ WLS Series Non-Contact Switch with a 0 dBi antenna and a top sensing target	
Side Sen	sing				
WLS	1A00	Α	QRS2	Limitless™ WLS Series Non-Contact Switch with no antenna and a side sensing target	
WLS	1A11	Α	QRS2	Limitless™ WLS Series Non-Contact Switch with a 0 dBi antenna and a side sensing target	
Limitless	s™ Wirele	ss No	n-Conta	act Switch for use in all other approved countries	
Top Sens	sing				
WLS	1A00	В	QRS1	Limitless™ WLS Series Non-Contact Switch with no antenna and a top sensing target	
WLS	1A11	В	QRS1	Limitless™ WLS Series Non-Contact Switch with a 0 dBi antenna and a top sensing target	
Side Sensing					
WLS	1A00	В	QRS2	Limitless™ WLS Series Non-Contact Switch with no antenna and a side sensing target	
WLS	1A11	В	QRS2	Limitless™ WLS Series Non-Contact Switch with a 0 dBi antenna and a side sensing target	



### Limitless™ Wireless Operator Interface

### **WOI Series**

The Limitless<sup>™</sup> product line extends to include wireless operator interface. With both momentary and maintained contacts, the wireless operator interface (WOI) can be used by an operator to provide indication via a pushbutton or another user-chosen operator type (i.e. 22 mm rotary switch, 22 mm key switch, etc.). The WOI Series adds a human interface device to the product-driven interfaces of Limitless<sup>™</sup> switches and receivers – wireless control from both person and position.

The WOI 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 ease in establishing a remote operator for use in a variety of applications, including turning equipment or devices on or off, opening and closing doors/gates, stopping a production conveyor, indicating the need for service, and much more.

#### **FEATURES**

#### Wireless Design

- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-topoint
- FCC 15, IC, ACMA & ETSI
- RoHS compliant
- EMI immunity
- Up to 305 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**

- Aluminum enclosure
- IP65 sealing
- 22 mm flush, 29 mm mushroom, &
   40 mm mushroom (push-pull) round pushbutton operators available
- User chosen/installed operator type is allowable
- Momentary and maintained contact options
- Design for ease of installation

#### **BENEFITS**

- Enables operator indication (i.e. push button) from remote locations where wiring is too costly or not possible
- Flexibility for users to choose and install their desired operator type;
   i.e. 22 mm rotary switch, 22 mm key switch, etc.
- Ability to reconfigure and network multiple WOI inputs, or point-to-point with personalized addresses, which allows for adding, subtracting or relocating of Limitless™ WOI switches easily
- Offers the ability to be used in conjunction with Limitless<sup>TM</sup> switches configured on a single Limitless<sup>TM</sup> receiver
- 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



#### **APPLICATIONS**

#### Industrial

- CNC action
- Conveyors
- Door/Gate action
- Lifts
- Material handling
- Motor drives
- Presses
- Pumps
- Quality control buttons
- Specialty machines
- Stop/Start machinery
- Stop/Start production
- Valve action

#### **Transportation**

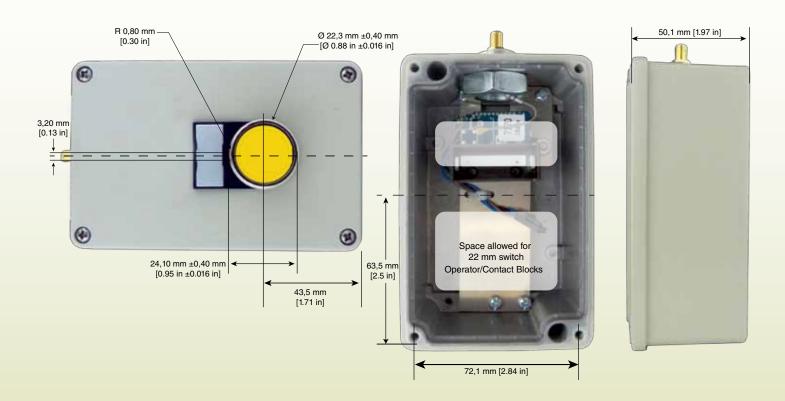
- Agricultural equipment
- Movable machinery



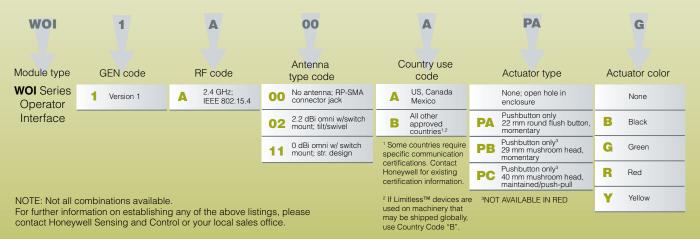
Product type	Limitless™ Operator Interface Switches
Availability	Global, license-free bands
Operating force	Momentary pushbutton: $6.2 \text{ N} \pm 2 \text{ N} [1.4 \text{ lb} \pm 0.45 \text{ lb}]$ Maintained pushbutton: $7.0 \text{ N} \pm 2 \text{ N} [1.6 \text{ lb} \pm 0.45 \text{ lb}]$
Actuator type	Pushbutton operators  • 22 mm round flush momentary  • 29 mm mushroom head momentary  • 40 mm mushroom head maintained (push-pull);  No operator option available for use with user supplied 22 mm operator and contact blocks
Actuator/contact blocks (if user supplied)	22 mm switch design (i.e. 22mm rotary switch, 22mm key switch, etc.) /gold contact, normally open and normally closed contact blocks capable of reliably controlling a 30 mA @ 3.6 Vdc electrical load
Actuator colors	Black, Green, Red*, Yellow * not available for the 29 mm mushroom, & 40 mm mushroom (push-pull) pushbuttons
Housing material	Powder coated aluminum
Radio	WPAN 802.15.4; 2.4 GHz
Antenna type Direct or remote mount antenna options; Omni directional	
Signal range	Nominal 305 m [1000 ft] clear line of sight between Limitless™ WOI switch and monitor/receiver when using 2.2 dBi integral antennas
Battery	3.6 Vdc Lithium Thionyl Chloride; 2/3 AA size (Est. life >1.5 years) Manufactured by Green Energy p/n ER14335M
Sealing	IP65
EMC	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
Shock	IEC 60068-2-27; half sine, 50 g, 6 mS, 3 axis
Vibration	IEC 60068-2-6; 10-500Hz w/ 0,35 mm peak-to-peak, 58-500 Hz- 10g
Operating tempera- ture	-25 °C to 50 °C [-13 °F to 122 °F]
Agency approvals and standards	FCC 15.247 Industry Canada RSS 210 ETSI, CE mark ACMA, C-Tick mark

## Limitless™ Wireless Operator Interface

### Dimensions and Ordering Options



#### **WOI NOMENCLATURE**



# **Limitless™ Wireless** Operator Interface WOI Standard Listings

Limitless™ WOI Series Operator Interface for use in US/Canada					
22 mm flush pushbutton					
WOI	1A00	A PAG	Limitless™ WOI, no antenna, 22 mm round flush momentary green pushbutton		
WOI	1A00	A PAI	Limitless™ WOI, no antenna, 22 mm round flush momentary red pushbutton		
WOI	1A11	A PAG	Limitless™ WOI, 0 dBi straight antenna, 22 mm round flush momentary green pushbutton		
WOI	1A11	A PAI	Limitless™ WOI, 0 dBi straight antenna, 22 mm round flush momentary red pushbutton		
29 mm m	nushroom	pushbut	ton		
WOI	1A00	A PB	Limitless™ WOI, no antenna, 29 mm mushroom head momentary yellow pushbutton		
WOI	1A11	A PB	Limitless™ WOI, 0 dBi straight antenna, 29 mm mushroom head momentary yellow pushbutton		
40 mm maintained pushbutton					
WOI	1A00	A PC	Limitless™ WOI, no antenna, 40 mm maintained yellow pushbutton		
WOI	1A11	A PC	Limitless™ WOI, 0 dBi straight antenna, 40 mm maintained yellow pushbutton		
Limitless	™ WOI Se	ries Oper	ator Interface for use in all other approved countries		
22 mm flush pushbutton					
WOI	1A00	B PAG	Limitless™ WOI, no antenna, 22 mm round flush momentary green pushbutton		
WOI	1A00	B PAI	Limitless™ WOI, no antenna, 22 mm round flush momentary red pushbutton		
WOI	1A11	B PAG	Limitless™ WOI, 0 dBi straight antenna, 22 mm round flush momentary green pushbutton		
WOI	1A11	B PAI	Limitless™ WOI, 0 dBi straight antenna, 22 mm round flush momentary red pushbutton		
29 mm m	nushroom	pushbut	ton		
WOI	1A00	B PB	Limitless™ WOI, no antenna, 29 mm mushroom head momentary yellow pushbutton		
WOI	1A11	B PB	Limitless™ WOI, 0 dBi straight antenna, 29 mm mushroom head momentary yellow pushbutton		
40 mm m	naintained	d pushbu	ton		
WOI	1A00	В РС	Limitless™ WOI, no antenna, 40 mm maintained yellow pushbutton		
WOI	1A11	B PC	Limitless™ WOI, 0 dBi straight antenna, 40 mm maintained yellow pushbutton		



### **Limitless™ Monitor and Receiver**

# WPMM Wireless Panel-Mount Monitor WDRR Wireless DIN-Rail Receiver

Limitless™ WPMM Series wireless panel-mount monitors provide a visual, audio, and NPN output based on a signal received from a Limitless™ input. Limitless™ WPMM monitors offer quick indication of an actuator position change on a paired Limitless™ wireless limit switch.

The WDRR Series DIN-Rail receiver accommodates up to 14 Limitless™ digital inputs for applications that need more than one-input/one-receiver configuration. It provides a separate visual and selectable NPN- or PNP-type output for indication of a change on a Limitless™ input.

#### WPMM FEATURES

#### **Wireless Electrical Design**

- Radio (license-free and global\*):
   WPAN 802.15.4, 2.4 GHz, point-to-point
- FCC 15, IC, ACMA, ETSI, COFETEL, IDA, WPC, SRRC, KCC, and ANATEL
- RoHS compliant
- EMI resistance protects against external interference
- In excess of 305 m [1000 ft] line-ofsight communication
- Reliable, flexible, and secure wireless transmission
- 10 Vdc to 30 Vdc supply with one NPN output configurable normally open or normally closed output
- Diagnostic functions include lost RF and low battery indication
- Designed primarily for single switch applications, but can monitor multiple wireless switches (sold separately)
- Field pairing function allows for rapid configuration

#### **Mechanical Design**

- Panel-mount enclosure (snap-in or screw mount)
- Polycarbonate, shock resistant, tamper-proof case
- Sealed to IP67
- Multiple LED function/status indicators with audible buzzer (configurable to silent)
- Direct or remote-mount antenna

#### WDRR FEATURES

#### **Wireless Electrical Design**

- Selectable NPN-, PNP-, or totempole- type output
- Fourteen configurable normally open or normally closed outputs for up to 14 Limitless<sup>TM</sup> inputs (sold separately)
- Reliable, flexible, and secure wireless transmission
- Radio (license-free and global\*): WPAN 802.15.4, 2.4 GHz, point-to-point
- In excess of 305 m [1000 ft] lineof-sight communication between Limitless™ switches and monitor/ receiver when using 2.2dBi integral antenna
- FCC 15, IC, ACMA, ETSI, COFETEL, IDA, WPC, SRRC, KCC, and ANATEL
- RoHS compliant
- Field pairing allows for rapid adding or subtracting inputs for quick configuration
- 10 Vdc to 28 Vdc supply
- Diagnostic functions include lost RF and low battery indication

#### **Mechanical Design**

- DIN Rail or screw mount
- Cage clamp screw terminal blocks for input/output connections
- Sealed to IP20
- Multiple LED function and status indicators
- LED RF signal strength indication for up to 14 Limitless™ inputs
- Direct or remote mount antenna



#### **APPLICATIONS**

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

#### LIMITLESS™ SERIES BENEFITS

- Ability to reconfigure and network multiple switches, or point-to-point with personalized addresses that allow for adding, subtracting
  or relocating Limitless™ switches easily
- Reduced installation/maintenance costs with no wiring, conduit, strain relief, clips, connectors, connection boxes, etc.
- Communication security per the IEEE 802.15.4 standard [16-bit PAN (network) ID,16-bit address and 128-bit security key]
- Eliminates issues with wire and connector integrity on moving equipment



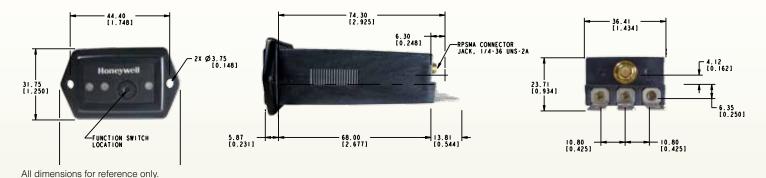


#### **WDRR Series**

Limitless™ wireless panel mount monitor	Product type	Limitless™ wireless din-rail receiver (PLC interface)
WPMM Series	Series name	WDRR Series
Global, license-free RF bands*	Availability	Global, license-free RF bands*
LCP, VECTRA E130i	Housing material	Flame retardant ABS
Snap-in panel or screw-mount design	Housing type	DIN-Rail or screw-mount design
WPAN 802.15.4, 2.4 GHz point to point	Radio type	WPAN 802.15.4, 2.4 GHz point-to-point
RP-SMA jack for direct mount or remote antenna options; omni-directional standard	Antenna type	RP-SMA jack for direct mount or remote antenna options; omni-directional standard
In excess of 305 m [1000 ft] line-of-sight communication between Limitless™ switches and monitor/receiver when using 2.2 dBi integral antenna	Signal range	In excess of 305 m [1000 ft] line-of-sight communication between Limitless™ switches and monitor/receiver when using 2.2 dBi integral antenna
Three LEDs: green, yellow, red Power indication: green Output indication: red Configuration/diagnostic: green, yellow, red Buzzer (output indic, config/diag) w/ silent option	Indication	Configuration LEDs: green, yellow, red 14 output/diagnostic LEDs: green, yellow, red Low battery & lost RF output LEDs: red, green RF signal strength LEDs: blue
10 Vdc to 30 Vdc	Supply voltage	10 Vdc to 28 Vdc
750 mA max.	Supply current	500 mA max.
NPN current sinking open collector; configurable normally open or normally closed	Output type	Selectable: NPN-type current sinking open collector or NPN-type "totem pole"; PNP-type current sourcing open collector or PNP-type "totem pole"
5 mA to 200 mA	Load current	10 mA max.
50 uA max.	Leakage current	100 uA max.
1.75 Vdc max. @ max. load @ 25 °C [77 °F]	Voltage drop	2.0 Vdc max. @ max. load @ 25 °C [77 °F]
3	Terminal(s)	18 usable
Quick connect, 0.25 in male blade	Termination	Cage-clamp screw terminal blocks
IP67	Sealing	IP20
Yes	Reverse polarity protection	Yes
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	EMC	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
IEC 60068-2-27; half sine, 10 g, 6 mS, 3 axis	Shock	IEC 60068-2-27; Half sine, 10 g, 6 mS, 3 axis
IEC 60068-2-6; 10 Hz to 500 Hz w/ 0,35 mm peak-to-peak, 58 Hz to 500 Hz- 5 g	Vibration	IEC 60068-2-6; 10-500Hz w/ 0,35 mm peak-to-peak, 58-500 Hz- 5 g
-40 °C to 85 °C [-40 °F to 185 °F]	Operating temp.	-20 °C to 70 °C [-4 °F to 158 °F]
FCC 15.247; IC RSS 210, ETSI, CE mark; ACMA, C-TICK; COFETEL; IDA; ANATEL; WPC; SRRC; KCC	Agency approvals and standards	FCC 15.247; IC RSS 210, ETSI, CE mark; ACMA, C-TICK; COFETEL; IDA; ANATEL; WPC; SRRC; KCC
31,87 mm H x 44,40 mm W x 74,30 mm D [1.25 in H x 1.748 in W x 2.925 in D] ref.	Size	88,9 mm H x 152,4 mm W x 38,1 mm D [3.5 in H x 6 in W x 1.5 in D] ref.

### **Limitless™ Monitor**

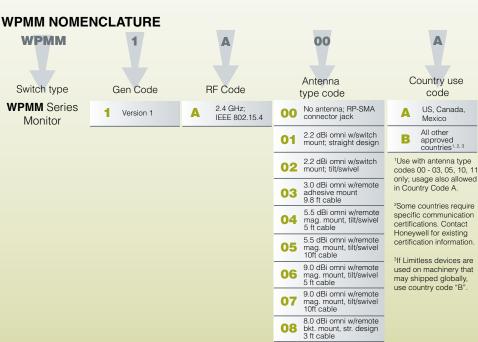
### WPMM Wireless Panel-Mount Monitor Dimensions and Ordering Options



8.0 dBi omni w/remote bkt. mount, str. design 11 ft cable

2.2 dBi omni w/remote mag. mount, tilt/swivel 10 ft cable

10

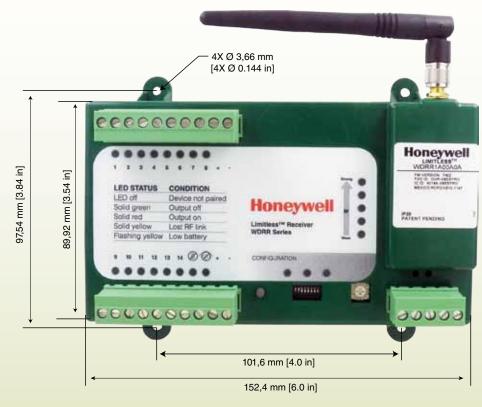




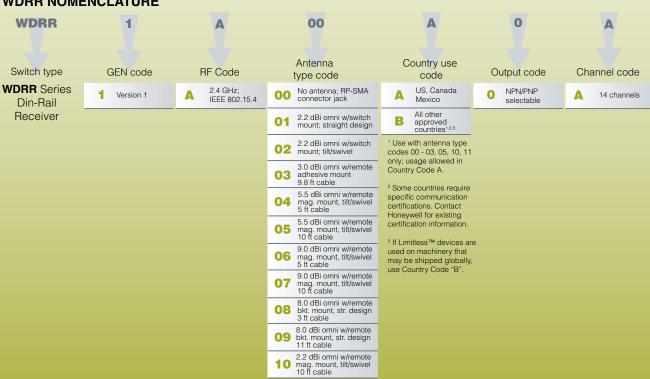
### **Limitless™ Receiver**

WDRR Wireless Din-Rail Receiver Dimensions and Ordering Options



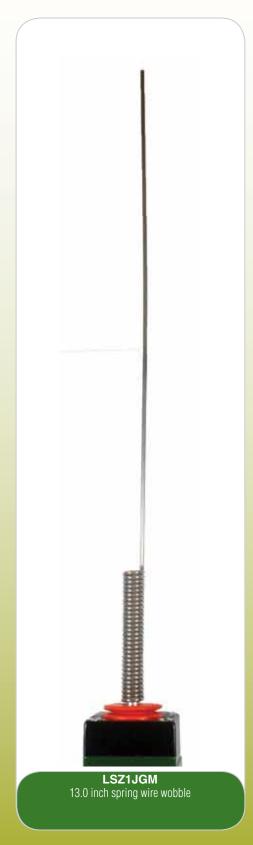


#### WDRR NOMENCLATURE



**WLS Series** 

Operating Heads with Wobble Sticks









Limitless™ switch actuators may be custom designed by Honeywell S&C's engineering team to ensure optimum actuation for specific applications.

### Accessories



WAN01RSP straight design, 2.2 dBi gain, direct mount connector



WANO2RSP tilt & swivel design, 2.2 dBi gain, direct mount connector



Antenna Type Code "03" WAN03RSP





WAN04RSP tilt & swivel design, 5.5 dBi gain, direct mount connector



WAN05RSP& WAMM100RSP-005 T/S, 9 dBi gain, magnetic mount



bracket mount



WAN07RSP straight design, 0 dBi gain, direct mount connector



**WAN09RSP**Iow-profile mobile antenna,
3.0 dBi gain, magnetic mount



WAN10RSP straight mobile antenna, 5.0 dBi gain, magnetic mount



**WAN11RSP**low-profile dome antenna,
4.0 dBi gain, through-hole screw mount







200 series coax cable assembly available in a variety of lengths



WAMM100RSP-005/010 100 series coax antenna mount available in 5 ft. and 10 ft. lengths

## WGLA Standard Listings

Limitles	Limitless™ WGLA Global Limit Switches for use in US/Canada/Mexico			
Side rot	ary			
WGLA	1A01	Α	A1A	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, standard lever with nylon roller
WGLA	1A01	Α	A1B	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, standard lever with steel roller
WGLA	1A01	Α	A4J	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, 200 mm aluminum adjustable rod actuator
WGLA	1A02	Α	A1A	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, standard lever with nylon roller
WGLA	1A02	A	A1B	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, standard lever with steel roller
WGLA	1A02	A	A4J	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, 200 mm aluminum adjustable rod actuator
WGLA	1A04	A	A1A	Limitless™ WGLA, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, standard lever with nylon roller
WGLA	1A04	A	A1B	Limitless™ WGLA, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, standard lever with steel roller
WGLA	1A04	A	A4J	Limitless™ WGLA,, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, 200 mm aluminum adj. rod
Top act	uators			
WGLA	1A01	A	В	Limitless™ WGLA, 2.2 dBi straight antenna, top pin plunger
WGLA	1A01	A	С	Limitless™ WGLA, 2.2 dBi straight antenna, top roller plunger
WGLA	1A01	A	D	Limitless™ WGLA, 2.2 dBi straight antenna, top roller lever
WGLA	1A02	A	В	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top pin plunger
WGLA	1A02	Α	С	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top roller plunger
WGLA	1A02	Α	D	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top roller lever
WGLA	1A04	Α	В	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top pin plunger
WGLA	1A04	A	С	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top roller plunger
WGLA	1A04	A	D	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top roller lever
Limitles	eTM WG	:ι Δ (	Global	Limit Switches for use in all other approved countries
Side rot		1 <u>-</u> _ \	aiobai	Limit Owneries for use in all other approved countries
WGLA	1A01	В	A1A	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, standard lever with nylon roller
WGLA	1A01	В	A1B	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, standard lever with steel roller
WGLA	1A01	В	A4J	Limitless™ WGLA, 2.2 dBi straight antenna, momentary, 200 mm aluminum adjustable rod actuator
WGLA	1A02	В	A1A	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, standard lever with nylon roller
WGLA	1A02	В	A1B	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, standard lever with steel roller
WGLA	1A02	В	A4J	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, momentary, 200 mm aluminum adjustable rod actuator
WGLA	1A04	В	A1A	Limitless™ WGLA, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, standard lever with nylon roller
WGLA	1A04	В	A1B	Limitless™ WGLA, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, standard lever with steel roller
WGLA	1A04	В	A4J	Limitless™ WGLA,, 5.5 dBi remote magnetic mount/t&s antenna with 5ft of cable, momentary, 200 mm aluminum adj.
Top act				
WGLA	1A01	В	В	Limitless™ WGLA, 2.2 dBi straight antenna, top pin plunger
WGLA	1A01	В	С	Limitless™ WGLA, 2.2 dBi straight antenna, top roller plunger
WGLA	1A01	В	D	Limitless™ WGLA, 2.2 dBi straight antenna, top roller lever
WGLA	1A02	В	В	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top pin plunger
WGLA	1A02	В	С	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top roller plunger
WGLA	1A02	В	D	Limitless™ WGLA, 2.2 dBi tilt & swivel antenna, top roller lever
WGLA	1A04	В	В	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top pin plunger
WGLA	1A04	В	С	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top roller plunger
WGLA	1A04	В	D	Limitless™ WGLA, 5.5 dBi remote magnetic mount/tilt & swivel antenna with 5 ft of cable, top roller lever

# WLS Standard Listings

Limitless™ WLS Heavy-Duty Limit Switches for use in US/Canada/Mexico					
Side rota	ıry				
WLS	1A00	Α	Α	Limitless™ heavy-duty limit switch, no antenna, momentary, no lever	
WLS	1A01	Α	A1A	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, fixed 1.5 in lever with nylon roller	
WLS	1A01	Α	A1B	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, fixed 1.5 in lever with steel roller	
WLS	1A01	Α	A2A	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, adjustable 3.5 in lever with nylon roller	
WLS	1A01	A	A2B	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, adjustable 3.5 in lever with steel roller	
WLS	1A02	Α	A1A	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, fixed 1.5 in lever with nylon roller	
WLS	1A02	Α	A1B	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, fixed 1.5 in lever with steel roller	
WLS	1A02	Α	A2A	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, adjustable 3.5 in lever with nylon roller	
WLS	1A02	Α	A2B	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, adjustable 3.5 in lever with steel roller	
Side rota	ry, maint	ained	head		
WLS	1A00	Α	N	Limitless™ heavy-duty limit switch, no antenna, maintained, no lever	
WLS	1A01	Α	N	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, maintained, no lever	
WLS	1A02	Α	N	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, maintained, no lever	
Top actua	ators				
WLS	1A00	Α	С	Limitless™ heavy-duty limit switch, no antenna, top plunger	
WLS	1A00	Α	D	Limitless™ heavy-duty limit switch, no antenna, top roller plunger	
WLS	1A01	Α	С	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, top plunger	
WLS	1A01	Α	D	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, top roller plunger	
WLS	1A02	Α	С	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, top plunger	
WLS	1A02	Α	D	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, top roller plunger	
Limitless	™ WLS I	Heavy-	-Duty	Limit Switches for use in all other approved countries	
Side rota	ıry				
WLS	1A00	В	Α	Limitless™ heavy-duty limit switch, no antenna, momentary, no lever	
WLS	1A01		A1A	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, fixed 1.5 in lever with nylon roller	
WLS	1A01		A1B	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, fixed 1.5 in lever with steel roller	
WLS	1A01	В	A2A	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, adjustable 3.5 in lever with nylon roller	
WLS	1A01		A2B	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, momentary, adjustable 3.5 in lever with steel roller	
WLS	1A02	В	A1A	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, fixed 1.5 in lever with nylon roller	
WLS	1A02	В	A1B	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, fixed 1.5 in lever with steel roller	
WLS	1A02	В	A2A	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, adjustable 3.5 in lever with nylon roller	
WLS	1A02	В	A2B	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, momentary, adjustable 3.5 in lever with steel roller	
Side rotary, maintained head					
WLS	1A00	В	N	Limitless™ heavy-duty limit switch, no antenna, maintained, no lever	
WLS	1A01	В	N	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, maintained, no lever	
WLS	1A02	В	N	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, maintained, no lever	
Top actua	ators				
WLS	1A00	В	С	Limitless™ heavy-duty limit switch, no antenna, top plunger	
WLS	1A00	В	D	Limitless™ heavy-duty limit switch, no antenna, top roller plunger	
WLS	1A01	В	С	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, top plunger	
WLS	1A01	В	D	Limitless™ heavy-duty limit switch, 2.2 dBi straight antenna, top roller plunger	
WLS	1A02	В	С	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, top plunger	
WLS	1A02	В	D	Limitless™ heavy-duty limit switch, 2.2 dBi tilt/swivel antenna, top roller plunger	

### Receiver Listings

Part Number		PMM Standard Listings Description	
WPMM	1A00	Α	Limitless™ WPMM monitor, no antenna, US/Canada/Mexico
WPMM	1A02	Α	Limitless™ WPMM monitor, 2.2 dBi omni antenna (tilt & swivel design), US/Canada/Mexico
WPMM	1A03	Α	Limitless™ WPMM monitor, 3.0 dBi omni antenna with remote adhesive mounting with 9.8 ft cable, US/Canada/Mexico
WPMM	1A04	A	Limitless™ WPMM monitor, 5.5 dBi omni antenna (tilt & swivel design) with remote magnetic mounting with 5 ft cable, US/Canada/Mexico
WPMM	1A05	A	Limitless™ WPMM monitor, 5.5 dBi omni antenna (tilt & swivel design) with remote magnetic mounting with 10 ft cable, US/Canada/Mexico
WPMM	1A00	В	Limitless™ WPMM monitor, no antenna, for use in all other approved countries
WPMM	1A02	В	Limitless™ WPMM monitor, 2.2 dBi omni antenna (tilt & swivel design), for use in all other approved countries
WPMM	1A03	В	Limitless™ WPMM monitor, 3.0 dBi omni antenna with remote adhesive mounting with 9.8 ft cable, for use in all other approved countries
WPMM	1A04	В	Limitless™ WPMM monitor, 5.5 dBi omni antenna (tilt & swivel design) with remote magnetic mounting with 5 ft cable, for use in all other approved countries
WPMM	1A05	В	Limitless™ WPMM monitor, 5.5 dBi omni antenna (tilt & swivel design) with remote magnetic mounting with 10 ft cable, for use in all other approved countries

Limitle Part No		/DF	RR S	tandard Listings Description
WDRR	1A00	Α	0A	Limitless™ DIN-Rail receiver, no antenna, US/Canada/Mexico
WDRR	1A03	Α	0A	Limitless™ DIN-Rail receiver, 3.0 dBi omni antenna with remote adhesive mounting with 9.8 ft cable, US/Canada/Mexico
WDRR	1A05	A	0A	Limitless™ DIN-Rail receiver, 5.5 dBi omni antenna (tilt/swivel design) with remote magnetic mounting/10 ft cable, US/Canada/Mexico
WDRR	1A00	В	0A	Limitless™ DIN-Rail receiver, no antenna, for use in all other approved countries
WDRR	1A03	В	0A	Limitless™ DIN-Rail receiver, 3.0 dBi omni antenna with remote adhesive mounting with 9.8 ft cable, for use in all other approved countries
WDRR	1A05	В	0A	Limitless™ DIN-Rail receiver, 5.5 dBi omni antenna (tilt/swivel design) with remote magnetic mounting/10 ft cable, for use in all other approved countries

Limitless™ WCA 200 Series Cable Standard Listings		
Part Number	Description	
WCA200RNPRSP-002	Limitless™ Series wireless cable assembly wth 200 Series cable, 2 ft length, reverse polarity N plug to reverse polarity SMA plug, use only with WAN06RNJ antenna	
WCA200RNPRSP-010	Limitless™ Series wireless cable assembly wth 200 Series cable, 10 ft length, reverse polarity N plug to reverse polarity SMA plug, use only with WAN06RNJ antenna	
WCA200RNJRSP-002	Limitless™ Series wireless cable assembly wth 200 Series cable, 2 ft length, reverse polarity SMA jack to reverse polarity SMA plug	
WCA200RNJRSP-005	Limitless™ Series wireless cable assembly wth 200 Series cable, 5 ft length, reverse polarity SMA jack to reverse polarity SMA plug	
WCA200RNJRSP-010	Limitless™ Series wireless cable assembly wth 200 Series cable, 10 ft length, reverse polarity SMA jack to reverse polarity SMA plug	
WCA200RNJRSP-015	Limitless™ Series wireless cable assembly wth 200 Series cable, 15 ft length, reverse polarity SMA jack to reverse polarity SMA plug	
WCA200RNJRSP-020	Limitless™ Series wireless cable assembly wth 200 Series cable, 20 ft length, reverse polarity SMA jack to reverse polarity SMA plug	

## Standard Antenna Listings

Part Number	Description
WAN01RSP	Limitless™ Series straight wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN02RSP	Limitless™ Series tilt/swivel wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN03RSP	Limitless™ Series flat wireless antenna with 3 dBi gain, reverse polarity SMA plug, adhesive mount with 3,05 m [10 ft] cable
WAN04RSP*	Limitless™ Series tilt/swivel wireless antenna with 5.5 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN05RSP*	Limitless™ Series tilt/swivel wireless antenna with 9 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA)
WAN06RNJ*	Limitless™ Series straight wireless antenna with 8 dBi gain, reverse polarity N jack, bracket mount with 0,31 m [1 ft] cable
WAN07RSP	Limitless™ Series straight wireless antenna with 0 dBi gain, reverse polarity SMA plug, connector mount 0 dBi straight w/RP-SMA plug
WAN08RSP	Limitless™ Series right angle wireless antenna with 0 dBi gain, reverse polarity SMA plug, connector mount 0 dBi straight w/RP-SMA plug
WAN09RSP	Limitless™ Series low profile straight antenna with 3.0 dBi gain, reverse polarity SMA plug, mobile magnetic mount with 4,57 m [15 ft] cable
WAN10RSP	Limitless™ Series straight antenna with 5.0 dBi gain, reverse polarity SMA plug, mobile magnetic mount with 4,57 m [15 ft] cable
WAN11RSP*	Limitless™ Series low profile dome antenna with 4.0 dBi gain, reverse polarity SMA plug, mobile thru-hole screw mount with 3 m [9.8 ft] cab



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