Wireless Heavy-Duty Limit Switch with Eyelet-Pull (WLS Series)

Limitless[™] Switch



DESCRIPTION

Honeywell is extending its Limitless[™] WLS Series of Heavy Duty Wireless Limit Switches with an eyelet-pull operating head that 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-to-point
- 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

Limitless[™] Series

Characteristic	Parameter						
Series name	WLS Series						
Product type	Limitless™ Wireless Heavy-Duty Limit Switches						
Operating characteristics Operating force: 7 lb approx. or 18 lb approx.							
Actuator	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						
Housing type	WLS						
Radio type	WPAN 802.15.4; 2.4GHz						
Communication agency approvals/certificates*	 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 						
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 Uniwell, part number DEV-10-0009; or 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						
Shock	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]						

Table 1. General Limitless™ WLS-EP Series Specifications

*Honeywell is continuing to add new Country Communication Agency Approvals as opportunities and requirements are established.

Table 2. Standard Listings

Part Number	Description
WLS1A11AQ-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, for use in US Canada, and Mexico
WLS1A11BQ-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, for use in all other approved countries
WLS1A11AQ-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, for use in US Canada, and Mexico
WLS1A11BQ-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, for use in all other approved countries
WLS1A11AQ-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, for use in US Canada, and Mexico
WLS1A11BQ-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, for use in all other approved countries

Wireless Heavy-Duty Limit Switch with Eyelet-Pull

NOMENCLATURE TREES

Limitless™ WLS Side Eyelet Head Switch Nomenclature (used in conjunction with the Limitless™ WLS Switch)

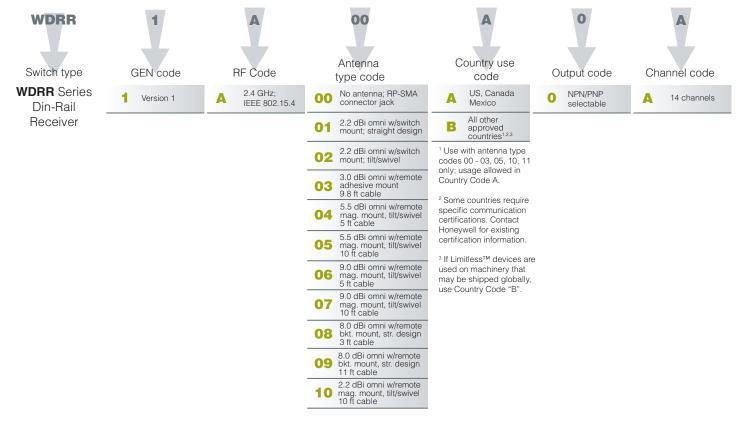
WLS	1	A	00	A	A	- 3	P01
Switch type	Gen Code	RF Code	Antenna type code	Country use code	Operating head code	Modification code	Specials
WLS Series Wireless	Version 1	A 2.4 GHz; IEEE 802.15.4	00 No antenna; RP-SMA connector jack	A US, Canada, Mexico	Q See specials	Head assembled with actuator towards nameplate surface	PO1 Eyelet-pull operating head (low force, 7 lb ref.)
			01 2.2 dBi omni w/switch mount; straight design	B All other approved countries ^{1, 2, 3}		3 Head assembled with actuator to right side	PO2 Eyelet-pull operating head (high force, 18 lb ref.)
		_	02 2.2 dBi omni w/switch mount; tilt/swivel	¹ Use with antenna type codes 00 - 03, 05, 10, 11 only; usage also allowed in Country Code A. ² Some countries require specific communication certifications. Contact Honeywell for existing certification information. ³ If Limitless devices are used on machinery that may be shipped globally, use Country Code "B".		4 Head assembled with actuator to left side	
			03 3.0 dBi omni w/remote adhesive mount 9.8 ft cable		-	5 Head assembled with actuator to mounting surface	
			04 5.5 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable				
		0	05 5.5 dBi omni w/remote mag. mount, tilt/swivel 10 ft cable				
			9.0 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable				
			9.0 dBi omni w/remote mag. mount, tilt/swivel 10 ft cable				
			8.0 dBi omni w/remote bkt. mount, str. design 3 ft cable				
			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				
			0 dBi omni w/ switch mount; straight design				

Limitless™ WPMM Monitor Nomenclature (used in conjunction with the Limitless™ WLS Switch)

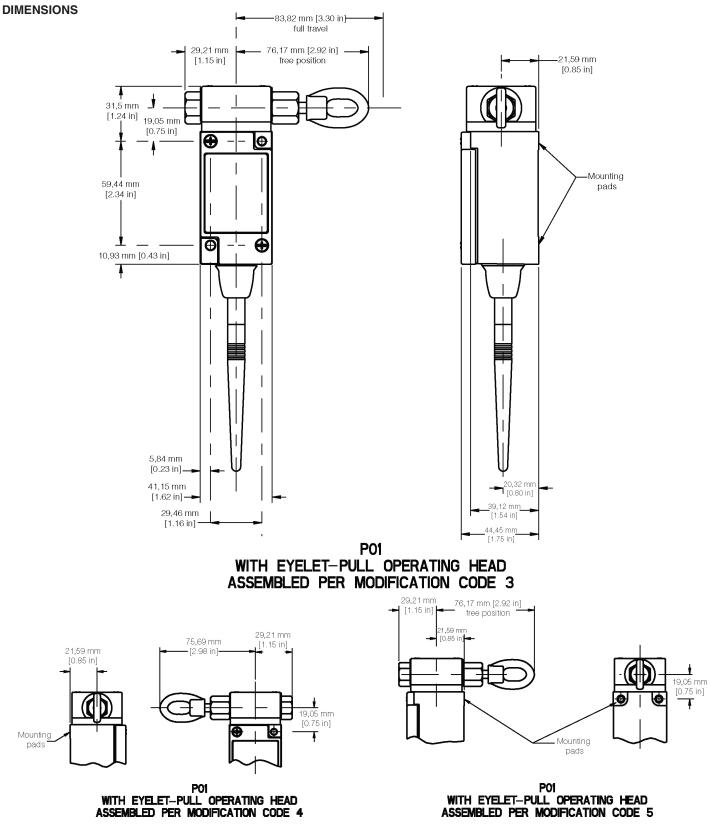
WPMM	1	A	00	A
Switch type	Gen Code	RF Code	Antenna type code	Country use code
WPMM Series Monitor	1 Version 1	A 2.4 GHz; IEEE 802.15.4	00 No antenna; RP-SMA connector jack	A US, Canada, Mexico
			01 2.2 dBi omni w/switch mount; straight design	B All other approved countries ^{1, 2, 3}
			02 2.2 dBi omni w/switch mount; tilt/swivel	¹ Use with antenna type codes 00 - 03, 05, 10, 11 only; usage also allowed
			03 3.0 dBi omni w/remote adhesive mount 9.8 ft cable	in Country Code A.
			04 5.5 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable	² Some countries require specific communication certifications. Contact Honeywell for existing
			05 5.5 dBi omni w/remote mag. mount, tilt/swivel 10ft cable	Certification information.
			9.0 dBi omni w/remote mag. mount, tilt/swivel 5 ft cable	used on machinery that may shipped globally, use country code "B".
			9.0 dBi omni w/remote mag. mount, tilt/swivel 10ft cable	use country code D .
			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	
			2.2 dBi omni w/remote mag. mount, tilt/swivel 10 ft cable	

Limitless[™] Series

Limitless™ WDRR Din-Rail Receiver Nomenclature (used in conjunction with the Limitless™ WLS Switch)



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Limitless[™] Series **ANTENNA OPTIONS** L-C Antenna Antenna Type Code Type Code Antenna Type Code "03" Antenna Type [']"01" "02" Code "04" WAN01RSP WAN04RSP WAN02RSP WAN03RSP WAN05RSP& WAN06RNJ straight design, tilt & swivel design, WAMM100RSP-005 tilt & swivel design, flat design, straight design, 5.5 dBi gain, 2.2 dBi gain, 2.2 dBi gain, 3 dBi gain, T/S, 9 dBi gain, 8 dBi gain, direct mount direct mount direct mount adhesive mount magnetic mount bracket mount connector connector connector Antenna Type Code . "11" WAN09RSP WAN11RSP WAN07RSP WAN10RSP low-profile mobile antenna, 3.0 dBi gain, magnetic mount low-profile dome antenna, 4.0 dBi gain, through-hole screw mount straight design, 0 dBi gain, direct mount connector straight mobile an-tenna, 5.0 dBi gain, magnetic mount WPB1 WPR1 WPMM mounting WPMM panel mount bracket retainer

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ANTENNA CABLE OPTIONS

WCA200RNPRSP-002 Cable Assembly: 2 ft¹ WCA200RNPRSP-010 Cable Assembly: 10 ft¹



¹ use only with WAN06RNJ antenna and when extra cable is desired

WCA200RNJRSP-002 Cable Assembly: 2 feet length² WCA200RNJRSP-005 Cable Assembly: 5 feet length² WCA200RNJRSP-010 Cable Assembly: 10 feet length² WCA200RNJRSP-015 Cable Assembly: 15 feet length² WCA200RNJRSP-020 Cable Assembly: 20 feet length²

 $^{\rm 2}$ Use when extra cable length is desired and allows connection from RP-SMA jack to RP-SMA plug

MOUNTING OPTIONS

Limitless[™] Panel Mount Accessories WAMM100RSP-005 Magnetic Antenna Mount: w/ 5 ft of cable³ WAMM100RSP-010 Magnetic Antenna Mount: w/ 10 ft of cable³



 $^{\scriptscriptstyle 3}$ Use only with WAN01RSP, WAN02RSP, WAN04RSP, WAN05RSP, or WAN08RSP antennas

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A WARNING MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. DO NOT USE this document as product installation information.
- 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.

A 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.

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