

Limitless™ Din-Rail Receiver

WDRR Series



DESCRIPTION

The WDRR Series is a reliable din-rail or panel-mountable receiver that is designed to receive a wireless signal from a Limitless™ digital input. The WDRR then communicates the Limitless™ digital input status (i.e. switch open or closed) to a PLC (programmable logic controller) or any controller capable of NPN/PNP-type inputs. Honeywell's wireless solutions can save up to 60% compared to traditional wired solutions by

eliminating the need for conduit, connectors, and wire while significantly reducing installation and labor costs.

Accommodating up to 14 Limitless™ digital inputs, the WDRR Series is for applications requiring multiple wireless inputs. These inputs communicate to a PLC or controller via NPN or PNP-type output, along with RF communication and battery diagnostics. Blue LEDs give visual confirmation that the system is wirelessly connected.

FEATURES

Wireless/Electrical design

- Selectable NPN or PNP-type output
- Configurable normally open or normally closed output for up to 14 Limitless™ inputs
- Reliable, flexible, and secure wireless transmission
- Radio (license-free and global): WPAN 802.15.4, 2.4 GHz, point-to-point
- Up to 1000 ft [305 m] communication range
- FCC 15, IC, ACMA & ETSI, COFETEL, and WPC
- Field pairing allows for rapid adding or subtracting inputs for quick configuration
- 10 Vdc to 28 Vdc supply
- Diagnostic functions including RF and low battery

Mechanical design

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

BENEFITS

- Enables presence/absence detection in remote parts of application/machinery, where wiring is costly or not feasible
- Ability to reconfigure and network multiple inputs, or point-to-point with personalized addresses which allows for adding, subtracting or relocating Limitless™ inputs easily
- Reduced installation/maintenance costs with no wiring to Limitless™ inputs, conduit, strain relief, clips, connectors, connection boxes, etc.
- Eliminates issues with wire connection integrity on moving equipment
- LEDs indicate change of status, low battery, RF signal loss, pairing function, & diagnostic functions
- Communication security per the IEEE 802.15.4 standard (16-bit PAN ID, 16-bit address and 128-bit security key)

POTENTIAL APPLICATIONS

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

Limitless™ Din-Rail Receiver

| Description | Parameter |
|--|--|
| Series name | WDRR |
| Product type | Limitless™ DIN Rail Receiver |
| Housing material | Flame retardant ABS (Acrylonitrile Butadiene Styrene) |
| Housing type | DIN or screw mount design |
| Housing 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. |
| Radio type | WPAN 802.15.4, 2.4G Hz |
| Communication agency approvals/certificates* | - FCC 15.247: United States of America - IC RSS 210: Canada - COFETEL: Mexico - ETSI, CE mark: European countries - ACMA, C-TICK: Australia - WPC: India |
| Antenna connection/type | RP-SMA jack for direct mount or remote antenna options; omni-directional standard |
| Indication | Configuration LEDs: green, amber, red Output LEDs: green, amber, red RF signal LEDs: blue |
| Signal range | 1000 ft** [305 m]**clear line of sight between Limitless™ input and receiver when using 2.2 dBi integral antenna |
| Supply voltage | 10 Vdc to 28 Vdc |
| Supply current | 500 mA max. |
| Output type | Selectable NPN-type current sinking or totem pole (current sinking); PNP-type current sourcing or PNP totem pole (current sourcing); selectable normally open/closed |
| Output voltage | Supply voltage minus 1.4 Vdc |
| Load current | 10 mA |
| Leakage current | 100 µA |
| Voltage drop | 2.0 Vdc max. @ max. load @ 25 °C [77 °F] |
| Reverse polarity protection | Yes |
| Short circuit protection | Yes |
| Sealing | IP20 |
| 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, 10g, 6mS, 3 axis |
| Vibration | IEC 60068-2-6; 10-500Hz w/ .35 mm- peak-to-peak, 58-500 Hz- 5g |
| Operating temperature | -20 °C to 85 °C [-4 °F to 185 °F] |

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

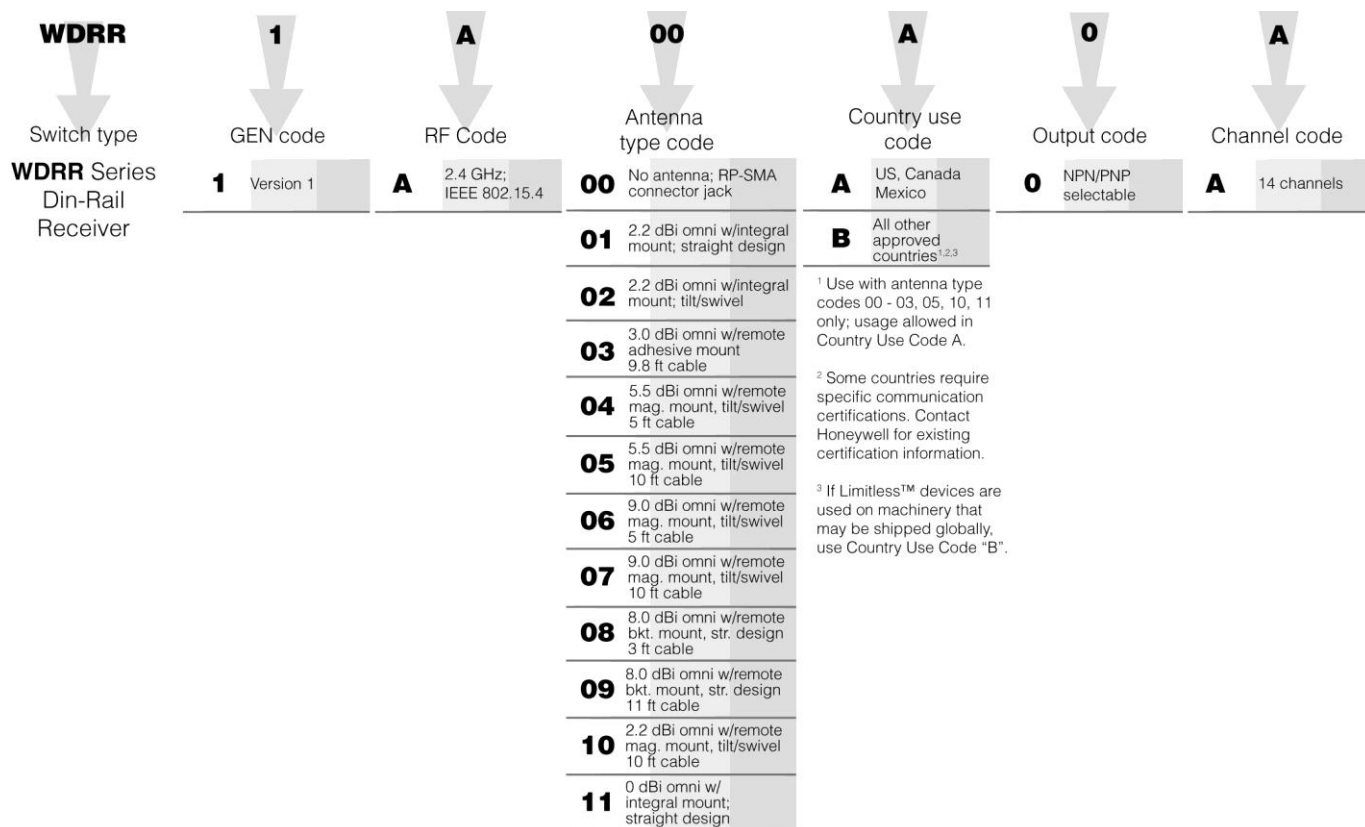
**Actual range will vary depending upon antennas, cables, and site topography

CAUTION

The WDRR receiver offers optimal performance when paired with Limitless™ inputs that have a firmware version of 7170 or a greater number (i.e., FW7170 will be printed on the Limitless™ input label). If the Limitless™ input is paired with older firmware (FW7170 or a lesser number), the WDRR may exhibit delayed responses under simultaneous operation.

WDRR Series

NOMENCLATURE TREE (Not all configurations are immediately available.)

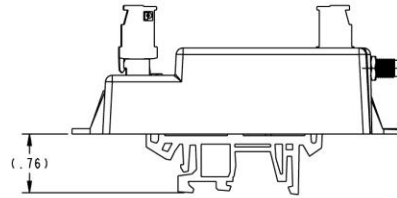
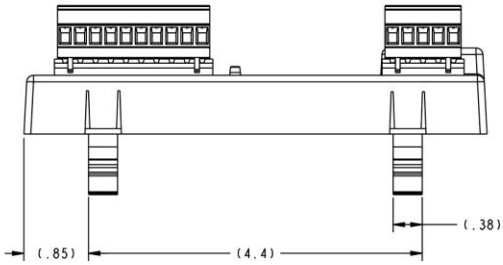
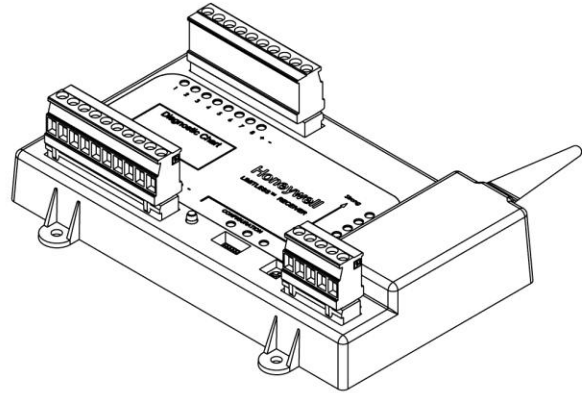
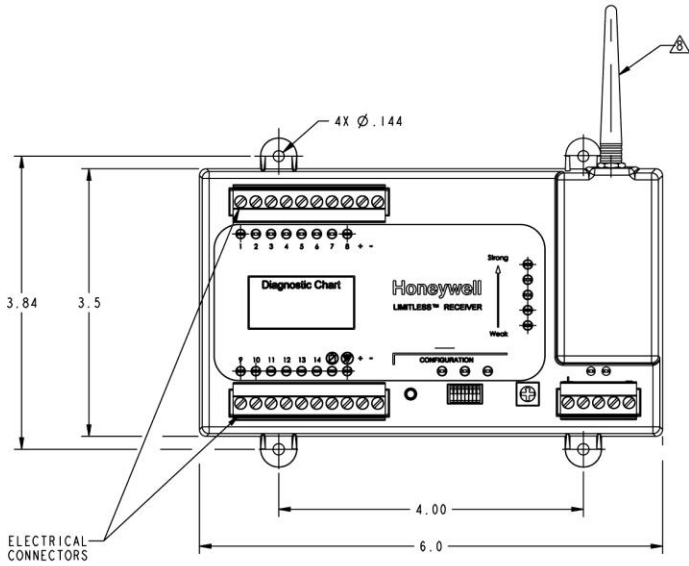


WDRR STANDARD LISTINGS

| Part Number | Description |
|-------------|---|
| WDRR1A00A0A | Limitless™ Din-Rail receiver, no antenna, US/Canada/Mexico |
| WDRR1A02A0A | Limitless™ Din-Rail receiver, 2.2 dBi omni antenna with integral mount (tilt/swivel), US/Canada/Mexico |
| WDRR1A03A0A | Limitless™ Din-Rail receiver, 3.0 dBi omni antenna with remote adhesive mounting with 9.8 ft cable, US/Canada/Mexico |
| WDRR1A05A0A | Limitless™ Din-Rail receiver, 5.5 dBi omni antenna (tilt/swivel design) with remote magnetic mounting with 10 ft cable, US/Canada/Mexico |
| WDRR1B00A0A | Limitless™ Din-Rail receiver, no antenna, for use in all other approved countries |
| WDRR1B02A0A | Limitless™ Din-Rail receiver, 2.2 dBi omni antenna with integral mount (tilt/swivel), for all other approved countries |
| WDRR1B03A0A | 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 |
| WDRR1B05A0A | Limitless™ Din-Rail receiver, 5.5 dBi omni antenna (tilt/swivel design) with remote magnetic mounting with 10 ft cable, for use in all other approved countries |

Limitless™ Din-Rail Receiver

DIMENSIONS



WDRR Series

ANTENNA ACCESSORIES

Limitless™ Antennas

| WAN01RSP | WAN02RSP | WAN03RSP | WAN04RSP | WAN07RSP |
|--|---|---|--|--|
| Straight wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA) | Tilt/swivel wireless antenna with 2.2 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA) | Flat wireless antenna with 3 dBi gain, reverse polarity SMA plug, adhesive mount with 3,05 m [10 ft] cable | Tilt/swivel wireless antenna with 5.5 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA) | Straight wireless antenna with 0 dBi gain, reverse polarity SMA plug, connector mount 0 dBi straight w/RP-SMA plug |
|  |  |  |  |  |
| WAN06RNJ | WAN05RSP | WAN08RSP | WAN10RSP | |
| Straight wireless antenna with 8 dBi gain, reverse polarity N jack, bracket mount with 0,31 m [1 ft] cable | Tilt/swivel wireless antenna with 9 dBi gain, reverse polarity SMA plug, connector mount (RP-SMA) | Right angle wireless antenna with 0 dBi gain, reverse polarity SMA plug, connector mount 0 dBi straight w/RP-SMA plug | Straight antenna with 5.0 dBi gain, reverse polarity SMA plug, mobile magnetic mount with 4,57 m [15 ft] cable | |
|  |  |  |  | |
| WAN09RSP | WAN11RSP | | | |
| Low profile straight antenna with 3.0 dBi gain, reverse polarity SMA plug, mobile magnetic mount with 4,57 m [15 ft] cable | Low profile dome antenna with 4.0 dBi gain, reverse polarity SMA plug, mobile thru-hole screw mount with 3 m [9.8 ft] cable | | | |
|  |  | | | |

Limitless™ Din-Rail Receiver

Limitless™ Cable Accessories

WCA200RNPRSP-002/010 Cable Assembly



Limitless™ Panel Mount Accessories

WAMM100RSP-005/010 Magnetic Antenna Mount



STANDARD CABLE ACCESSORIES

| Part Number | Description |
|------------------|--|
| 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.

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

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

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

SALES AND SERVICE

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

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