



## RXW-UCC-xxx Sensor

### Pulse Input - Electronic Switch Sensor

The HOBOnet Wireless Pulse Input Sensor connects to sensors with a pulse output. This sensor is compatible with electronic switch closures, such as FET or open-collector outputs, or CMOS-level logic signals. HOBOnet Wireless Sensors communicate data directly to the HOBOnet RX3000 weather station or pass data through other wireless sensors back to the central station. They are preconfigured and ready to deploy, and data is accessed through HOBOLink, Onset's innovative cloud-based software platform.

#### Supported Measurements:

Pulse Input

#### Key Advantages:

##### Sensor Features

- Maximum input frequency 120 Hz (120 pulses per second)
- Electronic solid-state switch closure or CMOS-level digital output

##### Wireless Features

- 900 MHz wireless mesh self-healing technology
- 450 to 600 meter (1,500 to 2,000 feet) wireless range and up to five hops
- Up to 50 wireless sensors per RX3000
- Simple button-push to join the HOBOnet wireless network
- Onboard memory to ensure no data loss
- Powered by rechargeable AA batteries and built-in solar panel



## RXW-UCC-xxx Sensor Specifications

|                               |                                                                                                                                                                                                                                                                                          |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sensor                        | RXW-UCC-xxx<br>For Electronic Switches                                                                                                                                                                                                                                                   |
| Measurement Input Frequency   | 120 Hz (120 pulses per second)                                                                                                                                                                                                                                                           |
| Measurement Range             | 0-65,533 pulses per logging interval                                                                                                                                                                                                                                                     |
| Resolution                    | 1 pulse                                                                                                                                                                                                                                                                                  |
| Lockout Time                  | 45 $\mu$ s $\pm$ 10%                                                                                                                                                                                                                                                                     |
| Recommended Input Type        | Electronic solid state switch closure or CMOS-level digital output (example: FET, opto-FET or open collector)                                                                                                                                                                            |
| Preferred Switch State*       | Active low input                                                                                                                                                                                                                                                                         |
| Edge Detection                | Falling edge, Schmitt Trigger buffer (logic levels: low =2.7 V)                                                                                                                                                                                                                          |
| Minimum Pulse Width           | 1 ms                                                                                                                                                                                                                                                                                     |
| Input/Output Impedance        | 100 K $\Omega$                                                                                                                                                                                                                                                                           |
| Open Circuit Input Voltage    | 3.3 V                                                                                                                                                                                                                                                                                    |
| Maximum Input Voltage         | 3.6 V                                                                                                                                                                                                                                                                                    |
| User Connection               | 24 AWG wires, 2 leads: white(+), black(-)                                                                                                                                                                                                                                                |
| Wireless Mote                 |                                                                                                                                                                                                                                                                                          |
| Operating Temperature Range   | -25° to 60°C (-13° to 140°F) with rechargeable batteries<br>-40 to 70°C (-40 to 158°F) with lithium batteries                                                                                                                                                                            |
| Radio Power                   | 12.6 mW (+11 dBm) non-adjustable                                                                                                                                                                                                                                                         |
| Transmission Range            | Reliable connection to 457.2 m (1,500 ft) line of sight at 1.8 m (6 ft) high<br>Reliable connection to 609.6 m (2,000 ft) line of sight at 3 m (10 ft) high                                                                                                                              |
| Wireless Data Standard        | IEEE 802.15.4                                                                                                                                                                                                                                                                            |
| Radio Operating Frequencies   | RXW-UCC-900 and RXW-UCD-900: 904-924 MHz<br>RXW-UCC-868 and RXW-UCD-868: 866.5 MHz<br>RXW-UCC-922 and RXW-UCD-922: 916-924 MHz                                                                                                                                                           |
| Modulation Employed           | OQPSK (Offset Quadrature Phase Shift Keying)                                                                                                                                                                                                                                             |
| Data Rate                     | Up to 250 kbps, non-adjustable                                                                                                                                                                                                                                                           |
| Duty Cycle                    | <1%                                                                                                                                                                                                                                                                                      |
| Maximum Number of Motes       | 50 motes per one RX Wireless Sensor Network                                                                                                                                                                                                                                              |
| Battery Type/<br>Power Source | Two AA 1.2 V rechargeable NiMH batteries powered by built-in solar panel or two AA 1.5 V lithium batteries for operating conditions of -40 to 70°C (-40 to 158°F)                                                                                                                        |
| Battery Life                  | With NiMH batteries: Typical 3-5 years when operated in the temperature range -20° to 40°C (-4°F to 104°F) and positioned toward the sun (see Deployment and Mounting), operation outside this range will reduce the battery service life<br>With lithium batteries: 1 year, typical use |
| Memory                        | 16 MB                                                                                                                                                                                                                                                                                    |
| Dimensions                    | Cable length: 6.5 m (21.3 ft.)<br>Mote: 16.2 x 8.59 x 4.14 cm (6.38 x 3.38 x 1.63 inches)                                                                                                                                                                                                |
| Weight                        | Cable: 250 g (9 oz)<br>Mote: 223 g (7.87 oz)                                                                                                                                                                                                                                             |
| Materials                     | Mote: PCPBT, silicone rubber seal                                                                                                                                                                                                                                                        |
| Environmental Rating          | Mote: IP67, NEMA 6                                                                                                                                                                                                                                                                       |
| Compliance Marks              |  RXW-UCC-900                                                                                                                                                                                          |
|                               |  RXW-UCC-868                                                                                                                                                                                          |
|                               |  RXW-UCC-922                                                                                                                                                                                          |

## Contact Us

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