ONSET®

IEI
Monitoring & Control Systems

Sales & Support:
(435) 755-0774
http://www.inmtn.com
info@inmtn.com

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 HOBO 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

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RXW-UCC-xxx Sensor Specifications

Sensor	RXW-UCC-xxx 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 µs ±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?
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 -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 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 RXW-UCC-868 and RXW-UCD-868: 866.5 MHz 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/ 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 With lithium batteries: 1 year, typical use
Memory	16 MB
Dimensions	Cable length: 6.5 m (21.3 ft.) 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) Mote: 223 g (7.87 oz)
Materials	Mote: PCPBT, silicone rubber seal
Environmental Rating	Mote: IP67, NEMA 6
Compliance Marks	FC RXW-UCC-900
	CE RXW-UCC-868
	⟁ RXW-UCC-922

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RXW-UCD-xxx Sensor

Pulse Input - Contact Closure Sensor

The HOBOnet Wireless Pulse Input Sensor connects to sensors with pulse output. This sensor is compatible with contact closures, such as tipping-bucket rain gauges or reed switches. HOBOnet Wireless Sensors communicate data directly to the HOBO 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 2 Hz (2 pulses per second)
- Mechanical contact closure

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

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RXW-UCD-xxx Sensor Specifications

Sensor	RXW-UCD-xxx For Contact Closures
Measurement Input Frequency	2 Hz (2 pulses per second)
Measurement Range	0-65,533 pulses per logging interval
Resolution	1 pulse
Lockout Time	327 ms ±10%
Recommended Input Type	Mechanical contact closure (example: reed switch in a tipping-bucket rain gauge)
Preferred Switch State*	Normally open
Edge Detection	Falling edge, Schmitt Trigger buffer (logic levels: low =2.7 V)
Minimum Pulse Width	1 ms
Input/Output Impedance	100 K?
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 -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 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 RXW-UCC-868 and RXW-UCD-868: 866.5 MHz 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/ 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 With lithium batteries: 1 year, typical use
Memory	16 MB
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Materials	Mote: PCPBT, silicone rubber seal
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Compliance Marks	FC RXW-UCD-900 CE RXW-UCD-868 RXW-UCD-922