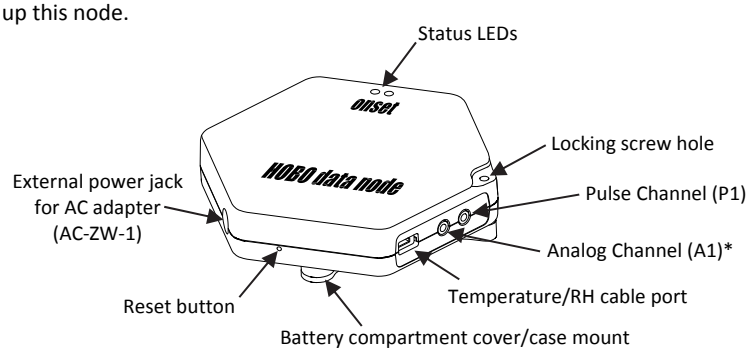
HOBO® Data Node, Ext Temp/RH, Analog, Pulse (ZW-005)

The HOBO ZW-005 data node is configured with a temperature/RH channel designed to accept the included temperature/RH cable, along with one analog and one pulse channel. The analog channel accepts a wide range of Onset and third-party sensors/transducers with 0–2.5 VDC output, including temperature and AC current sensors. Specifications for Onset sensors are available at onsetcomp.com or from an Onset Authorized Dealer. For 0–5 VDC, 0–10 VDC, or 4–20 mA output, use optional Onset part numbers CABLE-ADAP5, CABLE-ADAP10, or CABLE 4-20 mA respectively. CABLE-2.5-STEREO is required to connect to the pulse channel (connect the pulse output device to the cable's black and white leads).

This node has routing capability in the ZW wireless network when initially powered with an AC adapter. Refer to the *HOBO ZW Series Wireless Network Quick Start Guide* for information on how to set up this node.



***Caution:** Analog channel input cannot exceed 2.5 VDC. For sensor outputs up to 10 VDC, use appropriate voltage adapter cable.

HOBO Data Node (ZW-005)

Included Items:

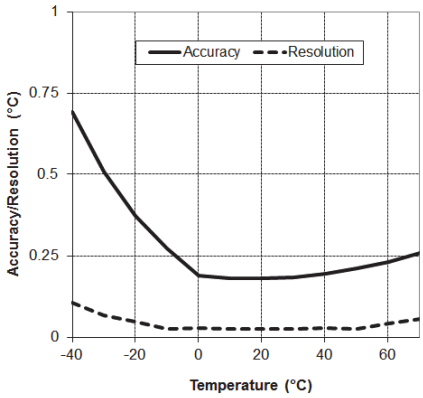
- AC adapter (AC-ZW-1)
- Temp/RH cable
- 3 AAA batteries
- 1 locking screw
- Hook & loop tape
- Adhesive label
- Bracket kit (ZW-BRACKET)

Specifications

Radio power	1.6 mW (2 dBm)
Transmission range	Approx. 100 m (328 ft), depending on obstructions or interference
Wireless data standard	IEEE 802.15.4, 2.4 GHz band
Measurement ranges	Temperature: -40° to 70°C (-40 to 158°F) RH: 0 to 100% RH, -40° to 70°C (-40° to 158°F) Analog channel: 0 to 2.5 VDC, 0 to 5 VDC (with CABLE-ADAP5), 0 to 10 VDC (with CABLE-ADAP10), 4-20mA (with CABLE-4-20-mA)
Pulse channel	CABLE-2.5-STEREO required Maximum input frequency: 120 Hz (120 pulses per second) Measurement range: 0 to 65,535 pulses per logging interval Resolution: 1 pulse Recommended input type: Electronic solid state switch closure or CMOS-level digital output (example: FET, opto-FET or open collector) Minimum pulse width: 1 ms Input/output impedance: 100 KΩ Maximum input voltage: 2.8 V Bits per sample: 16
Accuracy	Temperature: ±0.21°C from 0 to 50°C (±0.38°F from 32° to 122°F); see Plot A RH: ±2.5% from 10% to 90% typical to a maximum of ±3.5% including hysteresis at 25°C (77°F); below 10% and above 90% ±5% typical Analog channel: ± 1.544 mV plus 2% of reading typical
Resolution	Temperature: 0.02°C at 25°C (0.04°F at 77°F) RH: 0.05% Analog channel: 0.6 mV
Response time	Temperature: 5 minutes in air moving 1 m/sec (3.3 ft/sec) RH: 10 minutes in air moving 1 m/sec (3.3 ft/sec) with protective cap
Operating temperature	-20° to 50°C (-4° to 122°F) when battery powered, -20° to 70° C (-4° to 158°F) when line powered
Operating RH	5% to 95% non-condensing
Stability (drift)	Temperature: < 0.1°C (0.18°F) per year RH: <1% per year typical

Specifications (continued)

Time accuracy	± 1 minute per month at 25°C (77°F)
Memory capacity	128K
Power options	Data mode: battery powered (3 AAA alkaline batteries); 1-year battery life at 15-minute logging interval Data/router mode: AC power adapter (input: 100–240 V at 50/60 Hz 0.20 A output: 6 VDC at 0.5 A), batteries as backup power
Case material	ABS
Dimensions	96.5 x 108 x 28 mm (3.8 x 4.25 x 1.1 in.)
Weight (with batteries)	138 g (4.87 oz)
CE	The CE Marking identifies this product as complying with all relevant directives in the European Union (EU).
FC	See below



Plot A

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by Onset Computer Corporation could void the user's authority to operate the equipment.

To comply with FCC and Industry Canada RF radiation exposure limits for general population, the HOBO data nodes, receivers, and routers must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada

This device has been designed to operate with the antenna listed below, and having a maximum gain of 1 dB. Antennas not included in this list or having a gain greater than 1 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

Approved antenna: Johanson Technologies P/N 2450AT45A100 1.0 dBi chip antenna

FCC Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.