



dipperLog SMART

Spidermesh Cooperative Mesh Network

The Heron dipperLog SMART is an independent, wireless, real time data transfer system requiring no Cell or Wi-Fi coverage. The network allows you to collate, view and record remote data at a single location. This turnkey system makes the data viewable on the tablet or personal device. The optional Web interface also allows you to upload the data to a cloud where it can be viewed using our Web App. The dipperLog SMART can be deployed in any location and accommodate an unlimited number of sensors. It is completely scalable and perfectly adaptable to YOUR unique project.

Each individual data syncing Node in the network communicates with all of its neighbours within reach, creating a completely independent network that does not rely on other services such as Wi-Fi, Internet or Cellular.

The Gateway and tablet is the ultimate destination of the data flow. The Gateway is how all the information is sent via Bluetooth to the tablet for collation and display. The tablet comes with the dipperLog SMART application installed and configured for your network. All the data from the Nodes in the system can be viewed on the tablet simply by selecting which Node's data you wish to access.



Cooperative Mesh Technology:

In a wireless cooperative mesh topology, network traffic is synchronized. There are no data collisions, since every Node has a precise communication slot allocated. As a result, a wireless sensor network (WSN) using this topology is not limited in size. Communication is very efficient as no energy is wasted handling network traffic. This makes the technology exceptionally low-powered which will eliminate the use of solar-panels in most applications.

- Large Network (300+ sensors)
- Extremely low powered (Nodes operate on 3x D-cell alkaline batteries for up to 3 years)

Web App. Features*:

- Detailed sensor page with data-log viewing
- Multiple datasets charting
- Alarms with sound/speech integration
- Export datasets to .tsv Excel compatible files
- Differential analysis from reference values
- Live modifications to the physical system (control/configuration/thresholds)

*Device Dependent

Features and Advantages Included*:

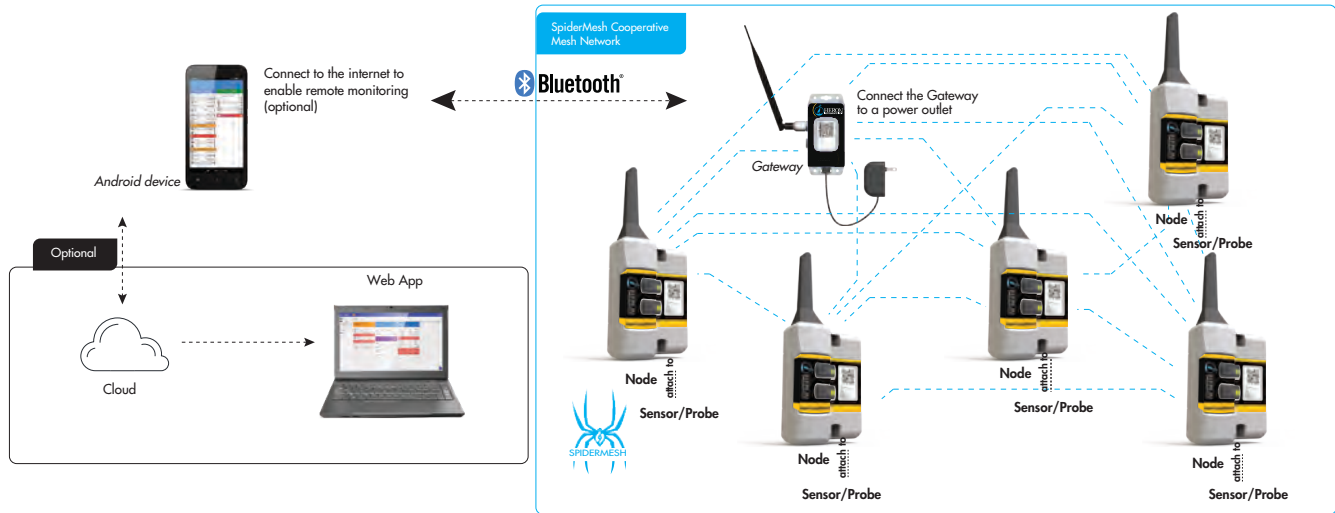
- Easy installation
- Automatic barometric compensation
- Three years replaceable D-cell batteries(Node)
- Cutting-edge, user friendly Mobile or Web App
- Measurement of pressure and temperature up to 120m(400ft)
- Real-time readings and data-logging
- Up to 10km between Nodes with direct line of sight
- Total network area dependent on number of sensors (300+ sensors)
- Synchronous communication
- Pump control

Applications:

- Surveillance in remote areas
- WSN in forest/mountainous high occlusion conditions
- Long and short term monitoring
- Pump and slug testing
- Wetland and tidal studies
- Municipal pumping stations
- Dewatering
- Environmental Companies
- Agriculture
- Government Agencies
- Educational Institutions



Communication Protocol



Nodes and Sensors**



Water Depth & Temperature

The Heron **dipperLog (64 or TOUGH)** sensor, available in various ranges up to 120m(400ft), measures pressure and temperature. The built-in barometer, automatically compensates data for barometric pressure so no vent cable is required. For data back-up the **dipperLog** can be programmed to record internally using the Heron **dipperLog** Software.



Water Detection

The Heron water detection sensor is a low cost, remote monitoring solution for detecting when water is present. The water level meter probe, connected to the water detection **Node** is operable with any 2 wire ON/OFF contact switch.



Repeater

This optional member of the network acts as a relay for data transfer when adjacent **Nodes** are outside transmission range. This unit will forward any data received to surrounding **Nodes** and **Repeaters** in the system to complete the coverage area.

The **dipperLog SMART** Software allows for communication to peripheral equipment such as pumps or alarm sirens, when used with the appropriate **Nodes**. After setting alarm limits, the correct programming can enable the system to turn pumps and signals ON when conditions, such as specific levels, temperature readings, flow rates, etc. are met.

The **Nodes** and **Repeaters** are designed to be weather proof with heavy duty casing and seals for outdoor deployment. Together they create the spidermesh network, a stand-alone data transfer network whose size is defined only by the number of units deployed with an unlimited capacity.

**Additional Nodes and Sensors coming soon.

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Please visit our website www.heroninstruments.com for more information on the complete Heron line.