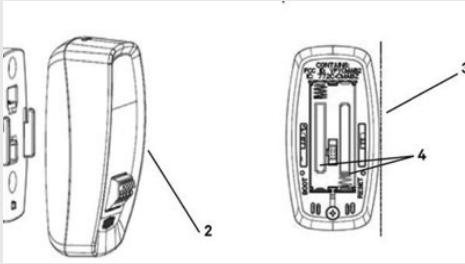




### WSN Sensor Troubleshooting Scenarios

	Issue	Possible Cause	Explanation and/or Possible Solution
<input type="checkbox"/>	<ul style="list-style-type: none"> <li>LEDs do not illuminate when pressing the sensor button.</li> <li>LEDs on sensor flash, go off, flash again, and repeat.</li> <li>Sensor is continuously beeping as if joining over and over.</li> </ul>	Dead or dying batteries	Check and replace batteries. 
<input type="checkbox"/>	 <p>Sensor shows up in WebUI, but data is missing or inconsistent.</p>	Sensor was joined to multiple gateways.	Having multiple gateways within range of the sensor when joining and WSNConnect is enabled on other gateways, it is possible the sensor joined more than one gateway. If this is the case, then the sensor data will be inconsistent. View the WebUIs of all gateways in range and look for the sensor in question. Delete this sensor from all other gateways. Then, rejoin the sensor to the correct gateway. <b>It is important to only have WSNConnect turned on for one gateway at a time when setting up a system.</b>
<input type="checkbox"/>	The remote temperature probe reading disappears.	Remote temperature probe unplugged or defective.	Check remote temperature probe connection and orientation or replace probe.
<input type="checkbox"/>	The sensor has an external battery pack but is currently running on internal batteries. Look at the battery voltage in the WebUI and if last three characters are "int" then the sensor is running on internal battery instead of "ext" external battery pack.	External batteries are dead.	Check and replace batteries if dead. If this solved the problem, when you check the battery voltage you will now see "ext" external battery pack at the end of the battery voltage.
<input type="checkbox"/>		Internal spring fingers are not making contact with the external battery.	Inspect the external battery spring fingers inside the rear slots on the sensor. Using a small tool, lift the spring fingers and try reconnecting the external battery. Repeat this process until a connection is made. Verify batteries are not depleted first.

	Issue	Possible Cause	Explanation and/or Possible Solution
<input type="checkbox"/>	 <p>Sensor data is not showing up in WebUI after a gateway has been without power for an extended period of time.</p>	<p>System is re-initializing after long gateway shutdown. Sensors have entered a three-minute update mode to preserve batteries.</p>	<p>When the gateway is without power for long periods of time, the sensors will reduce their update rate to three minutes and their transmit power to conserve battery life. When the gateway is powered back on, it could take several cycles at the three-minute update rate before the system is restored. Therefore, the solution may be to simply wait longer for the sensors to re-establish communication after this extended gateway outage.</p> <p>Recommended to turn sensors off if it's known the gateway is going to be powered off for an extended period of time.</p>
<input type="checkbox"/>	<p>Sensor data not showing in WebUI after gateway maintenance or system reconfiguration.</p>	<p>Sensor is not properly activated.</p>	<p>Press the button on the sensor to rejoin and re-activate the sensor.</p>
<input type="checkbox"/>	<p>Sensor data packets are not being received by the gateway. This indicates that data packets have been dropped. The missed updates counter in the WebUI indicates how many consecutive sensor data packets have been dropped. It is normal for the missed updates counter to count up to one or two. If it continues to count up higher, then it could indicate collisions between sensor data packets.</p>	<p>RF Collisions</p>	<p>If sensor data packets are being dropped, there could be RF collisions preventing the messages from reaching the gateway. The gateway will tune the system to prevent these collisions. Give the system several hours to autotune. If this problem persists, then check for optimum sensor radio power (TxSF = sf7 and TxPwr = 10). If these values are not present, the sensor may need to be relocated because it may be out of range. If sensor location is critical, an additional gateway may be required.</p>
<input type="checkbox"/>	<p>Sensor is not transmitting data at the configured update rate.</p>	<p>Battery Saver Mode is Enabled.</p>	<p>If battery saver mode is enabled and the sensor is in a stable temperature environment, the sensor will skip up to two payloads. Therefore, the update rate could be 3x the system setting in stable temperature environments.</p>
<input type="checkbox"/>	<p>Sensor batteries are draining at a high rate.</p>	<p>The sensor may be operating in a high-power mode or battery saver mode is not enabled.</p>	<p>The system incorporates an Adaptive Data Rate (ADR) algorithm which will automatically increase the sensor's transmit power if the signal strength at the gateway is low. If the sensor is too far from the gateway, it will cause high power draw and intermittent communication. The optimum power setting in the WebUI for each sensor is TxSF = sf7 and TxPwr = 10. Relocate sensor for better battery performance. For optimum battery performance enable Battery Saver Mode.</p>

	Issue	Possible Cause	Explanation and/or Possible Solution
<input type="checkbox"/>	The sensor will not join the gateway.	WSNConnect is turned off.	If the sensor has not been previously joined to a gateway network, then WSNConnect needs to be enabled. Go to the WebUI and click the WSNConnect slider button. The WSNConnect slider should only be turned on in one gateway at a time when configuring an installation with multiple gateways.
<input type="checkbox"/>	No green or blue LEDs on the front gateway panel.	No power	Check the input power connection. The AC/DC adapter could be defective, or an alternate power source is not turned on.
<input type="checkbox"/>	The Green Power LED is on, but the Blue Status LED is off.	Gateway is not fully booted yet.	After gateway power up or reboot, it can take up to 2.5 minutes for the gateway to fully boot and be ready for collecting sensor data. At this point the blue status LED should be on to indicate that the system is running.
<input type="checkbox"/>	The Green Power LED is on, but the Blue Status LED is off after 2.5 minutes has elapsed.	The gateway application program is not running.	The blue status LED only comes on when all services are up and running. If the appropriate amount of time from power up has elapsed (more than 2.5 minutes), then a full power cycle can be performed to see if the gateway will boot after reset. If this does not work, please contact the factory.
<input type="checkbox"/>	A new sensor will not join the network.	WSNConnect is turned off.	If a new network is being set up, the WSNConnect slider has to be turned on in the WebUI before a new sensor will connect. The WSNConnect slider should only be turned on in one gateway at a time when configuring an installation with multiple gateways.
<input type="checkbox"/>		Gateway is configured for the wrong region.	Navigate to the System-->Region tab and make sure the Channel Plan Setting matches the physical sensors you are trying to connect. Refer to WSN User manual.
<input type="checkbox"/>	The Blue Status LED on the gateway is flashing.	WSNConnect is on.	The blue status LED will flash when WSNConnect is enabled to alert technicians that the gateway will allow new sensors to join the network. The gateway must be in this mode to allow any new sensors to join the network. The WSNConnect mode will timeout after 10 minutes if no new sensors have been joined.
<input type="checkbox"/>	There is no Modbus data available to external monitoring systems.	Modbus is not enabled or Ethernet cable is not connected.	Navigate to System-->BMS-MODBUS, click the Enable checkbox and press the save button. If this does not fix the problem, then check the Ethernet port connection on the gateway.

	Issue	Possible Cause	Explanation and/or Possible Solution
<input type="checkbox"/>	There is no SNMP data available to external monitoring systems.	SNMP is not enabled or Ethernet cable is not connected.	Navigate to System-->BMS-SNMP, click the Enable checkbox and enter system information, then press the save button. If this does not fix the problem, then check the Ethernet port connection on the gateway.
<input type="checkbox"/>	Upon first login to the gateway WebUI, Username: admin and Password: admin does not work.	Gateway has not been initialized to factory default settings.	After the gateway has fully booted and the blue status LED is on, press and hold the reset button (under the antenna on the gateway) for 10 seconds until the blue status LED turns off. You can now release the reset button and the gateway will perform a factory reset and restart. Once the blue LED comes back on, the initial login credentials of admin/admin will work.
<input type="checkbox"/>	Gateway port IP addresses changed and user doesn't remember what they are.	Gateway needs factory reset.	After the gateway has fully booted and the blue status LED is on, press and hold the reset button (under the antenna on the gateway) for 10 seconds until the blue status LED turns off. You can now release the reset button and the gateway will perform a factory reset and restart. Once the blue LED comes back on, the initial login credentials of admin/admin will work.
<input type="checkbox"/>	A system that was previously working has lost all real time sensor data.	The system time was changed by too large an amount.	The LoRa radio in the gateway syncs with the system clock at startup. If the system clock is changed by a large amount, the built-in security will de-activate sensors because it appears that replay attacks are being attempted. To fix this, be sure the system clock is set to the current UTC time, then reboot the gateway by performing a "Restart App" on the gateway web page. After the system reboots and blue status LED turns on and rejoins all sensors.
<input type="checkbox"/>	An Ethernet port is not working.	The IP address is not correct.	If you are able to connect to one of the Ethernet ports, navigate to System-->IP Config and be sure the port is set to what you are trying to use for connection. If it is not correct, change the address and save changes. If you cannot connect to either Ethernet port, then you will need to perform a factory reset on the gateway to gain access to the default IP addresses.

	<b>Issue</b>	<b>Possible Cause</b>	<b>Explanation and/or Possible Solution</b>
<input type="checkbox"/>	An Ethernet port is not working.	Loose cable or damaged hardware	If problem is not resolved after verifying the IP address of the port you are attempting to connect to, correcting any loose or damaged cable issues, and performing a factory reset, this issue may be related to internal damage in the gateway.
<input type="checkbox"/>	The firmware upgrade isn't working.	Using incorrect procedure	Be sure to navigate to the gateway tab and perform the "Select File" to select the new firmware file and then press the "Upload File" button on this page. No need to unzip firmware file.
<input type="checkbox"/>	The Import System Settings feature isn't working.	Using incorrect procedure	Be sure to navigate to the System-->Import/Export tab and perform the select file to select the system settings and press the upload file button to import the system settings.
<input type="checkbox"/>	Insufficient power	Insufficient power	



**To contact Vertiv Technical Support: visit [www.Vertiv.com](http://www.Vertiv.com)**

© 2021 Vertiv Group Corp. All rights reserved. Vertiv™ and the Vertiv logo are trademarks or registered trademarks of Vertiv Group Corp. All other names and logos referred to are trade names, trademarks or registered trademarks of their respective owners. While every precaution has been taken to ensure accuracy and completeness here, Vertiv Group Corp. assumes no responsibility, and disclaims all liability, for damages resulting from use of this information or for any errors or omissions. Specifications, rebates and other promotional offers are subject to change at Vertiv's sole discretion upon notice.

