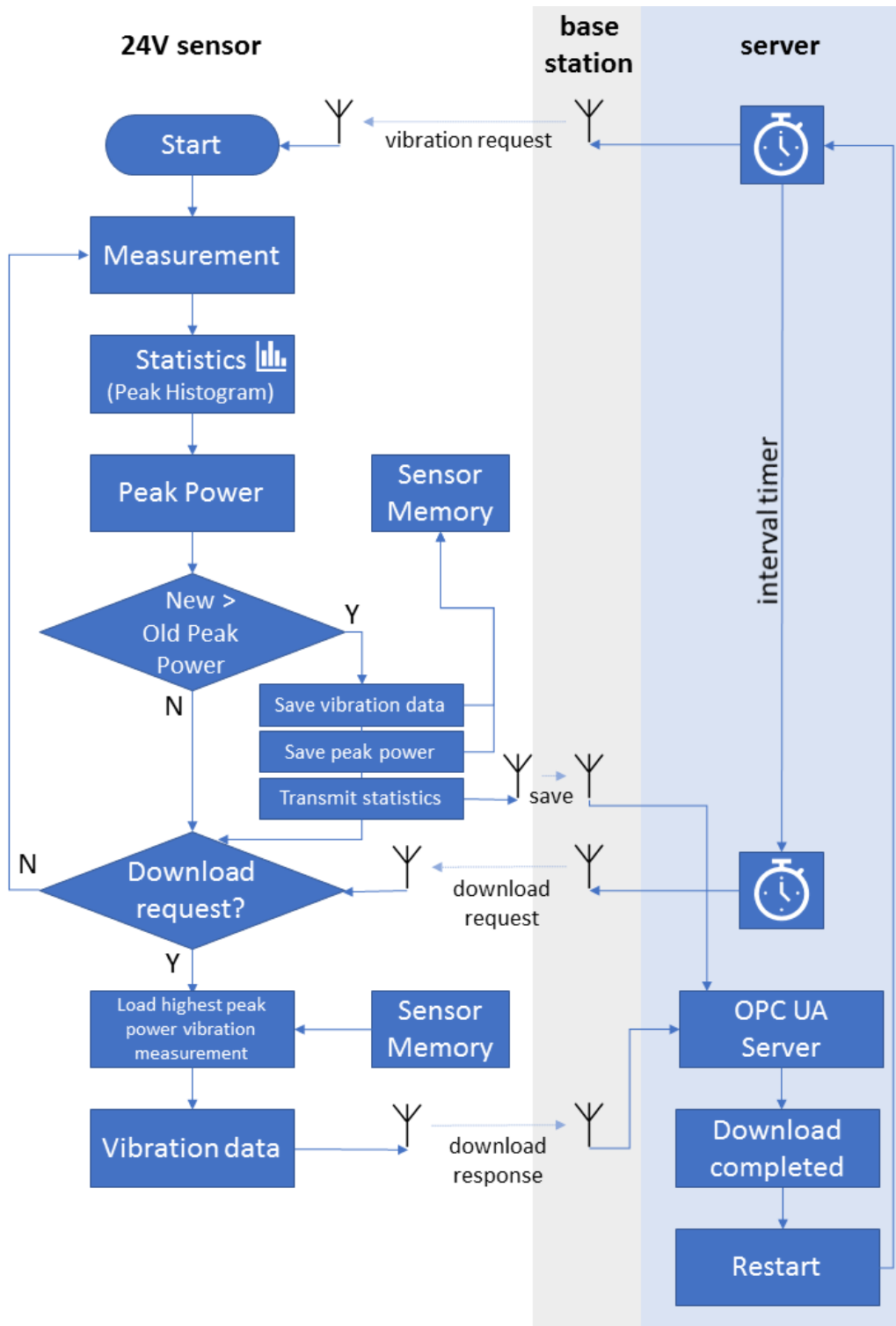


FLOWCHART

Wireless 24V Powered Vibration Sensor



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Flowchart description

Industrial Wireless 24V Powered Vibration Sensor

The difference with the Battery-Powered Vibration Sensor is that the 24V Powered Vibration Sensor is always actively measuring internally. This "always on" listening function makes the sensor very suitable for the detection of the maximum peak vibration signal within a measurement interval on machinery or equipment that is only active for a limited time (1 or more times) within the measurement interval e.g. CNC machine, conveyor belt... The 24V Powered Vibration Sensor also has a smart self-learning signal peak detector function on board for plug and play commissioning. This function ensures that the sensor will only collect relevant vibration data.

The internal operation of the 24V Powered Vibration Sensor is as follows (see flowchart above):

- When the iQunet Server issues a vibration capture request (timed by the interval timer for automatic measurements), a new vibration measurement is started.
- Inside the sensor the measurement statistics are calculated. The number of peaks is counted in an iterative way and a peak histogram is constructed
- Using this histogram, the logarithmic peak power is calculated.
- If the peak power of the new vibration measurement is higher than the previous highest value, the peak and the vibration data are saved to sensor memory. The vibration statistics are transferred to the OPC UA Server and saved there.
- At the end of the measurement interval as set in the Sensor Dashboard, a download request will be issued by the server and the currently saved measurement with the highest peak power will be downloaded from sensor memory. The download of the complete vibration measurement data will be started.
- The complete downloaded vibration data set is transferred to the OPC UA Server.
- When the downloaded data is saved onto the OPC UA Server, the download process is completed, and the peak power from the previous measurement stored in the sensor memory is erased. A new measurement can be started (restart).