



**Est. USA 1981**

[www.AKCP.com](http://www.AKCP.com)

# **WTG QuickStart Guide**



## AKCP Wireless Tunnel Gateway (WTG)

The WTG is a new product based on sensorProbe+ series, and supports up to 30 AKCP [Wireless Tunnel™ Sensors](#) (WTS).

You can view the collected data via the embedded Web UI of the unit, or consolidate the data from multiple gateways on AKCPro Server.



**Important Notice:** the WTG is not yet supported on the AKCPro Server 14.2.x version, but will be supported in the near future on APS v15. Contact support for more information.

*WiFi support:* If the WTG is placed in an area you don't have accessible Ethernet cable for network connection, you can use the WiFi option to connect the unit with your IP network. WiFi can also function as a hotspot for direct access without a wired or wireless network.

In this QuickStart Guide, we will cover the following:

- A) How to first power on the unit and get access to the WebUI
- B) How to add a Wireless Sensor (BOS/WTS) to the WTG
- C) WTG Network Settings and how to connect the WTG to an existing WiFi network
- D) License Management
- E) Cloud WebUI
- F) Features overview: Virtual Sensors, Graphing

## A) How to first power on the unit and get access to the WebUI

To access and configure the WTG unit, two methods are supported:

1. Traditional wired connection (LAN): fast and easy setup
2. WiFi connection: slower but still convenient setup

After the initial connection, both methods will provide access to the unit's WebUI for further configuration.

### Wired setup

Connect a network (LAN) cable to the unit's Ethernet port and power on the unit.



Using a PC or laptop, configure your network card's IP with IPv4 address: **192.168.0.200**  
Connect the WTG directly to your PC or laptop's network card with a crossover cable.

After the WTG has boot up, open the WebUI using the unit's default IP **192.168.0.100**  
Open <http://192.168.0.100> with a supported browser (Chrome or Firefox).

## Welcome to WTG Setup

In the next few screens, we will help you set up your system information, date/time, network connections, and account security. This process will get your unit fully functional and ready to go.

1 System Information ————— 2 Date / Time ————— 3 Account Security ————— 4 Wi-Fi Connection

Step 1: Give the unit a system name, system location, and system contact

System Name

System Name

System Location

System Location

System Contact

System Contact

BACK

NEXT

SKIP SETUP

The unit's setup wizard will load.

You can customize the unit's basic parameters now (system name, location, contact, date&time, password checking, WiFi connection), or you can choose "Skip setup" and do it later.

## Welcome to WTG Setup

In the next few screens, we will help you set up your system information, date/time, network connections, and account security. This process will get your unit fully functional and ready to go.

✓ System Information — 2 Date / Time — 3 Account Security — 4 Wi-Fi Connection

Step 2: Choose the appropriate date/time and time zone



Date

Thursday 05/11/2020

Time

8:58 am

Timezone

(GMT, DST observed) Dublin, Edinburgh, Lisbon, London

BACK

NEXT

SKIP SETUP

## Welcome to WTG Setup

In the next few screens, we will help you set up your system information, date/time, network connections, and account security. This process will get your unit fully functional and ready to go.

✓ System Information — ✓ Date / Time — 3 Account Security — 4 Wi-Fi Connection

Step 3: For security purposes, please choose your password carefully

Login Password Checking

Admin Password

Confirm Admin Password

BACK

NEXT

SKIP SETUP

## Welcome to WTG Setup

In the next few screens, we will help you set up your system information, date/time, network connections, and account security. This process will get your unit fully functional and ready to go.

✓ System Information ————— ✓ Date / Time ————— ✓ Account Security ————— 4 Wi-Fi Connection

### Step 4: Connect to your Wi-Fi network

Enable Wi-Fi connection to router

BACK

FINISH

SKIP SETUP

✓ System Information ————— ✓ Date / Time ————— ✓ Account Security ————— 4 Wi-Fi Connection

### Step 4: Connect to your Wi-Fi network

Enable Wi-Fi connection to router

Choose a Network...

✓ AKCP

Use DHCP

Use Wi-Fi as default interface

Wi-Fi Status

Station is connected

Static IP Address

10.1.6.31

Subnet Mask

255.255.255.0

Gateway

10.1.6.2

APPLY

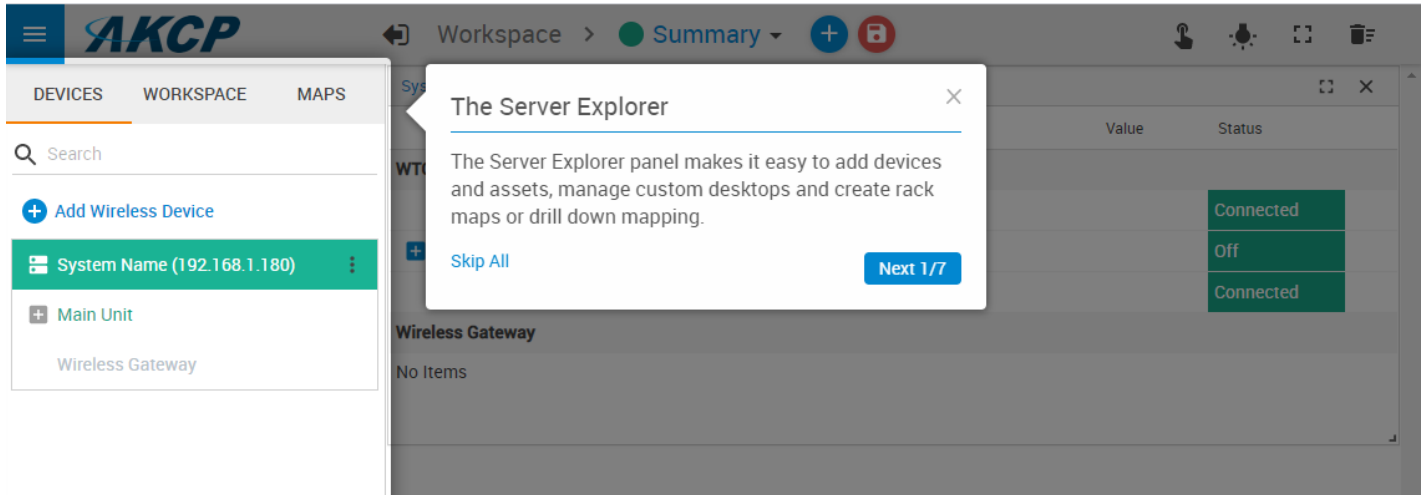
BACK

FINISH

SKIP SETUP

For details about connecting to an existing WiFi network, see below in this manual.

A WebUI tutorial will follow, where you can learn the basics of using the interface. You can skip the tutorial any time.



## Setup over WiFi

By default, the WTG has its Wi-Fi Access Point (AP) enabled and station mode (client mode) is disabled.

**Very Important Note:** on each power cycle of the unit, **the Default Access Point settings (see below) will be temporary re-enabled for 5 minutes**, regardless of the current configured WiFi settings. **Only after 5 minutes** the user configured settings will take effect (which can be another Access Point with custom settings or the wireless Station/Client mode to connect to another network).

### ***Default Access Point settings***

The default access point's **SSID** name is **WTG[3 last bytes of MAC address in hex]**. For example if your unit's MAC ID is 00:0B:DC:01:47:A4 then the default SSID of this unit will be: WTG0147A4

The **WiFi password** of this default Access Point will depend on the following:

- A) Any WTG unit after any number of power cycles, configured or unconfigured (for the first 5 minutes only, as described above):

The default WiFi password is "publicpublic" (without quotes). Because of this, when the unit is put to production usage it is recommended to enable password checking for WebUI user accounts, to prevent someone unauthorized from accessing the WTG.

- B) Fresh out-of-the box unconfigured unit without any modifications:

5 minutes after bootup, the default WiFi settings will use a password as the unit's MAC address in all-capitals hexadecimal without the : or - characters.

For example if your unit's MAC ID is 00:0B:DC:01:47:A4 then the default WiFi password of this unit will be: 000BDC0147A4

The unit's default IP address when connected over WiFi is **192.168.250.100**

The DHCP and DNS servers are enabled for connecting WiFi clients, such as phone or tablet.

The unit could be also accessed via hostname **akcp.local** if your device supports it.



### ***Access over WiFi***

Connect your laptop, phone or tablet to the unit's **Default Access Point** with the settings as noted earlier.

For example if your unit's MAC ID is 00:0B:DC:01:47:A4 then you need to connect to the WTG0147A4 wireless network, and use 000BDC0147A4 as the WiFi connection password.

Next open the WebUI using the unit's default WiFi IP **192.168.250.100** or the hostname **akcp.local** if your device supports it.

Open <http://192.168.250.100> or <http://akcp.local> with a supported browser (Chrome or Firefox).

The rest of the configuration will be the same as described for the wired connection mode: the Setup wizard will load (which you may skip) and then the WebUI of the unit with the default tutorials.

**Note:** The WebUI loading speed over WiFi will be slower than the wired connection. Please be patient.

## B) How to add a Wireless Sensor (BOS/WTS) to the WTG

Wireless sensors have the advantage of easy installation with no communication cables or power required. These sensors communicate with the WTG using radio frequency signals, and you need to pair them with the WTG to get their data.

As an example, we will use the Wireless Temperature & Humidity Sensor (WTS-TH).



This type of wireless sensor will monitor temperature and humidity levels, can log and graph data over time, and you can configure real-time alerts when user defined sensor thresholds are exceeded. It can also be used as a data logger, with the readings buffered and then synchronized to the gateway when in range. The IP66 rated enclosure provides weatherproofing for use in outdoor environments.

The WTS-TH can be ordered with the sensor on cable up to 15ft length (as on the picture on the left). This allows you to place the radio module in a convenient location with the sensor placed in a precise position.

The sensor can be battery powered with an estimated 10-year life, or connected to a USB power source.

## Adding a wireless sensor

First make sure that your wireless sensor is in RUN mode in order to complete the sensor pairing: press and hold the sensor's button for 1-2 seconds. The wireless sensor's LED will light up briefly.

Then open the WTG unit's WebUI. Click on the **Add Wireless Device** icon to begin.

The screenshot shows the AKCP WebUI interface. The top navigation bar includes 'Workspace' and 'Summary'. The left sidebar has 'DEVICES', 'WORKSPACE', and 'MAPS' tabs. Under 'DEVICES', there is a search bar and a list of devices. The '+ Add Wireless Device' button is highlighted with a red rectangle. The main content area shows a table with columns 'Unit', 'Name', 'Value', and 'Status'. The table lists 'Main board' (Connected), 'Internal Sensors' (Off), and 'Virtual Sensors' (Connected). Below this is a section for 'Wireless Gateway' with 'No Items' listed.

### Add New Wireless Device

Device Network Address (Hex)

Network Session Key (Hex)

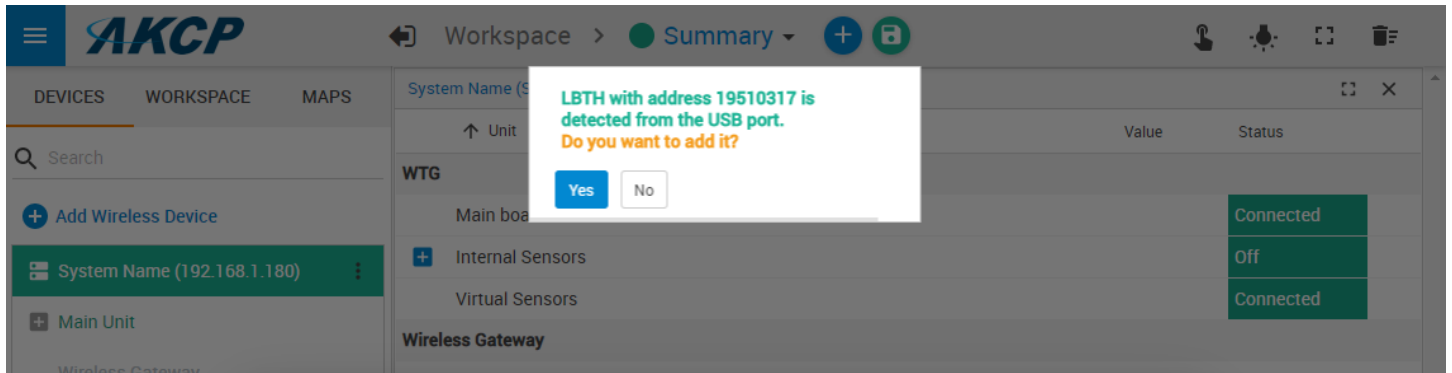
Application Session Key (Hex)

**SEARCH** CANCEL ADD

You may either input the wireless key details manually, or use one of the automated methods detailed below.

## USB

If you connect the wireless sensor directly to the WTG unit's USB port, it will be automatically detected. You can add it when you see the popup window:



Otherwise, when you click **Add Wireless Device** and the sensor is connected to the USB port, its parameters will be automatically detected:

### Add New Wireless Device

📶 LBTH with address 0x19510317 is detected from the USB port.

Device Network Address (Hex)  
19510317

Network Session Key (Hex)  
9AD5A30E94B70CE6DE64396E37472841

Application Session Key (Hex)  
926334DC05CA9931FB120EE55AA82E82

**SEARCH** CANCEL ADD

Click **Add** to add it to WTG.

## Search

### Add New Wireless Device

Device Network Address (Hex)


---

Network Session Key (Hex)

---

Application Session Key (Hex)

---

 CANCEL ADD

Press 'Mode' button until 2 LED blinks (SETUP Mode) on your wireless sensor and release.

The wireless search method can be used to automatically find a wireless sensor. Click **Add Wireless Device** then click on the **Search** button on the lower left corner. Press and hold the button on the wireless sensor until the LED begins to blink (SETUP mode).

After it's detected, click on **Add** to add it to WTG.

**Note:** make sure that your wireless sensor is in RUN mode in order to complete the sensor pairing: press and hold the sensor's button for 1-2 seconds. The wireless sensor's LED will light up briefly.

After a new sensor has been added, you will notice a warning triangle next to it:

The screenshot shows the AKCP interface with a 'Summary' view. On the left sidebar, under 'Wireless Gateway', the 'Wireless Device 19510317' is highlighted with a warning triangle icon. The main table displays the following data:

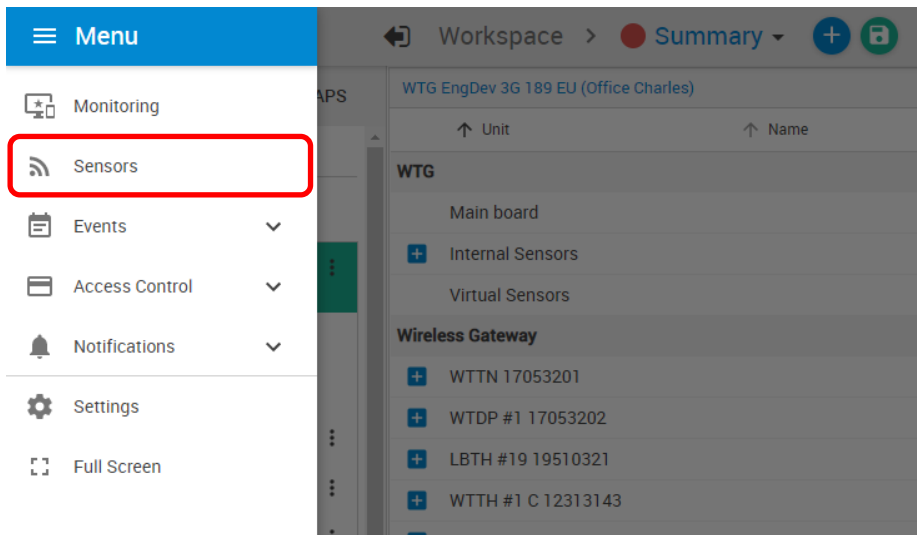
| Unit                     | Name | Value | Status        |
|--------------------------|------|-------|---------------|
| <b>WTG</b>               |      |       |               |
| Main board               |      |       | Connected     |
| Internal Sensors         |      |       | Off           |
| Virtual Sensors          |      |       | Connected     |
| <b>Wireless Gateway</b>  |      |       |               |
| Wireless Device 19510317 |      |       | Not Connected |

This indicates that the sensor still requires sync (pairing) with the WTG. Normally the sync will be done automatically, and after that the sensor readings should display correctly:

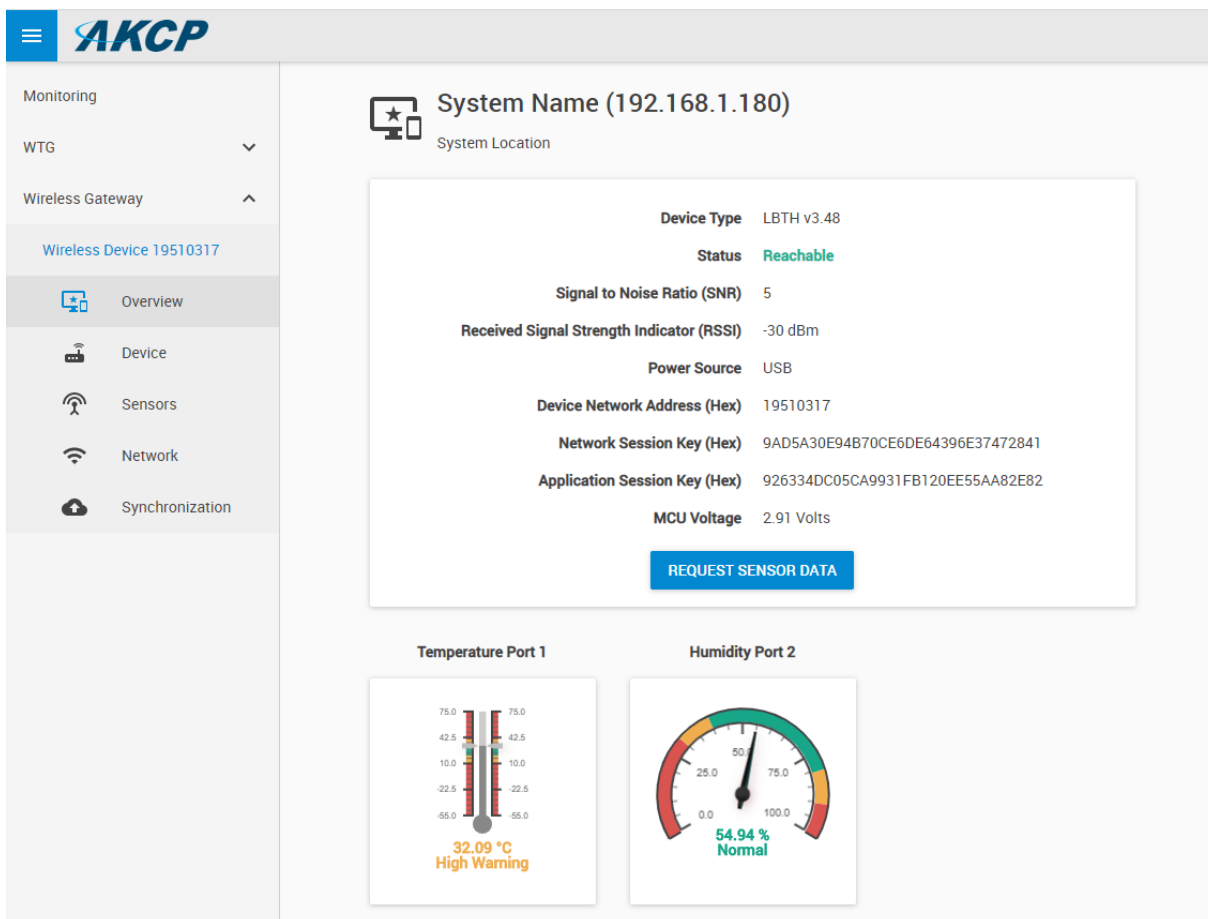
The screenshot shows the AKCP interface with the 'Wireless Device 19510317' now showing sensor data. The main table displays the following data:

| Unit                     | Name               | Value      | Status       |
|--------------------------|--------------------|------------|--------------|
| <b>WTG</b>               |                    |            |              |
| Main board               |                    |            | Connected    |
| Internal Sensors         |                    |            | Off          |
| Virtual Sensors          |                    |            | Connected    |
| <b>Wireless Gateway</b>  |                    |            |              |
| Wireless Device 19510317 | Battery            | 2.91 Volts | Normal       |
| Wireless Device 19510317 | Humidity Port 2    | 54.94 %    | Normal       |
| Wireless Device 19510317 | RSSI Upstream      | -30 dBm    | Normal       |
| Wireless Device 19510317 | SNR Upstream       | 5          | Normal       |
| Wireless Device 19510317 | Temperature Port 1 | 32.09 °C   | High Warning |

## Further sensor configuration



Access the menu on the top left corner and go to the **Sensors** page. The wireless sensors can be managed from this menu.



Here you can rename the sensor for easier identification:

The screenshot shows the AKCP web interface. On the left is a sidebar with a menu containing 'Monitoring', 'WTG', 'Main board', 'Internal Sensors', 'Virtual Sensors', 'Wireless Gateway', and a list of sensors including 'LBTH #19 19510321'. The 'Device' option is selected. The main content area is titled 'Device' and shows the following information:

- Settings / Device
- Device Type: LBTH v3.49
- Status: Reachable
- Signal to Noise Ratio (SNR): 5
- Received Signal Strength Indicator (RSSI): -65 dBm
- Power Source: Battery

Below this is the 'Settings' section with the following fields:

- System Name: LBTH #19 19510321
- Device Network Address (Hex): 19510321
- Network Session Key (Hex): 14E6E8E7EACC134F827B89E634467E24
- Application Session Key (Hex): EA496B2235DE69A51B809C1B84CCFA86

At the bottom of the settings section are 'SAVE' and 'CANCEL' buttons. The footer of the page contains the date 'Monday, 2 November 2020 12:42:37', the copyright notice 'Copyright 2020 | AKCP | All Rights Reserved', and the version number 'Version: 1.0.778'.



Adjust the sensor reading thresholds:

The screenshot shows the AKCP monitoring interface. On the left is a navigation menu with categories: Monitoring, WTG, Main board, Internal Sensors, Virtual Sensors, Wireless Gateway, and a list of WSSI devices. The main area displays a dashboard with five sensor cards: Dual Temperature (Normal), Dual Humidity (Normal), MCU Voltage (Low Critical), SNR (Normal), and RSSI (Normal). The 'Dual Temperature' card is selected, opening a configuration window. This window has tabs for 'Dual Temperature', 'Advanced', 'Status Text', and 'Continuous Time'. The 'Dual Temperature' tab is active, showing the sensor name 'Temp LBTH', a reading of 28.17 °C, and a status of 'Normal'. Below this is a threshold scale from -55 to 75 with markers at -55, 10, 20, 30, 40, and 75. The status 'Normal' is positioned between 20 and 30. At the bottom of the configuration window are 'SAVE' and 'CANCEL' buttons. The footer contains the date 'Monday, 2 November 2020 12:43:03', copyright information 'Copyright 2020 | AKCP | All Rights Reserved', and the version 'Version: 1.0.778'.

Access further fine-tuning of the readings:

| Dual Temperature     | Advanced      | Status Text | Continuous Time |
|----------------------|---------------|-------------|-----------------|
| Unit                 | Celsius       |             |                 |
| Rearm                | 1             |             |                 |
| Graph Enable         | Enable        |             |                 |
| Data Collection Type | Instantaneous |             |                 |

**SAVE** CANCEL

Change the sensor reading status texts for each status:

| Dual Temperature | Advanced | Status Text   | Continuous Time      |
|------------------|----------|---------------|----------------------|
|                  |          | High Critical | <b>High Critical</b> |
|                  |          | High Warning  | <b>High Warning</b>  |
|                  |          | Normal        | <b>Normal</b>        |
|                  |          | Low Warning   | <b>Low Warning</b>   |
|                  |          | Low Critical  | <b>Low Critical</b>  |
|                  |          | Sensor Error  | <b>Sensor Error</b>  |

**SAVE** **CANCEL**

Adjust continuous time for each sensor status:

Dual Temperature   Advanced   Status Text   Continuous Time

**Continuous Time for a Sensor Status to be active before accepting as a new status**

|               |           |   |
|---------------|-----------|---|
| High Critical | 0 minutes | ▼ |
| High Warning  | 0 minutes | ▼ |
| Normal        | 0 minutes | ▼ |
| Low Warning   | 0 minutes | ▼ |
| Low Critical  | 0 minutes | ▼ |
| Sensor Error  | 0 minutes | ▼ |

**SAVE**   CANCEL

For switch type sensor, it's working the same as the feature we have on the wired AKCP sensors.

For analog sensor type, you can set the number of polling (we display in time, polling number \* polling interval) before accepting the status.

Adjust wireless network settings per sensor (take note of the warnings regarding battery life):

The screenshot displays the AKCP web interface. On the left is a sidebar with a menu containing 'Monitoring', 'WTG', 'Main board', 'Internal Sensors', 'Virtual Sensors', 'Wireless Gateway', and a list of sensors including 'LBTH #19 19510321'. The 'Network' option is selected in the sidebar. The main content area is titled 'Network' and shows 'Settings / Network'. A settings panel is open, containing the following fields and warnings:

- Sensor value collection period (Period of how often sensor values are collected and checked against thresholds. Values are used for events and graphing): 1 Minute
- Sensor data broadcast period (Transmit sensor values and counters): 1 Minute
- Warning: when device is on battery, the minimum period is 1 minute. Warning: selected interval of 1 Minute will have battery live estimation of 1 year.
- Timeout, period of delay since last received packet from sensor before 'Unreachable' status is reported (Minutes): 35

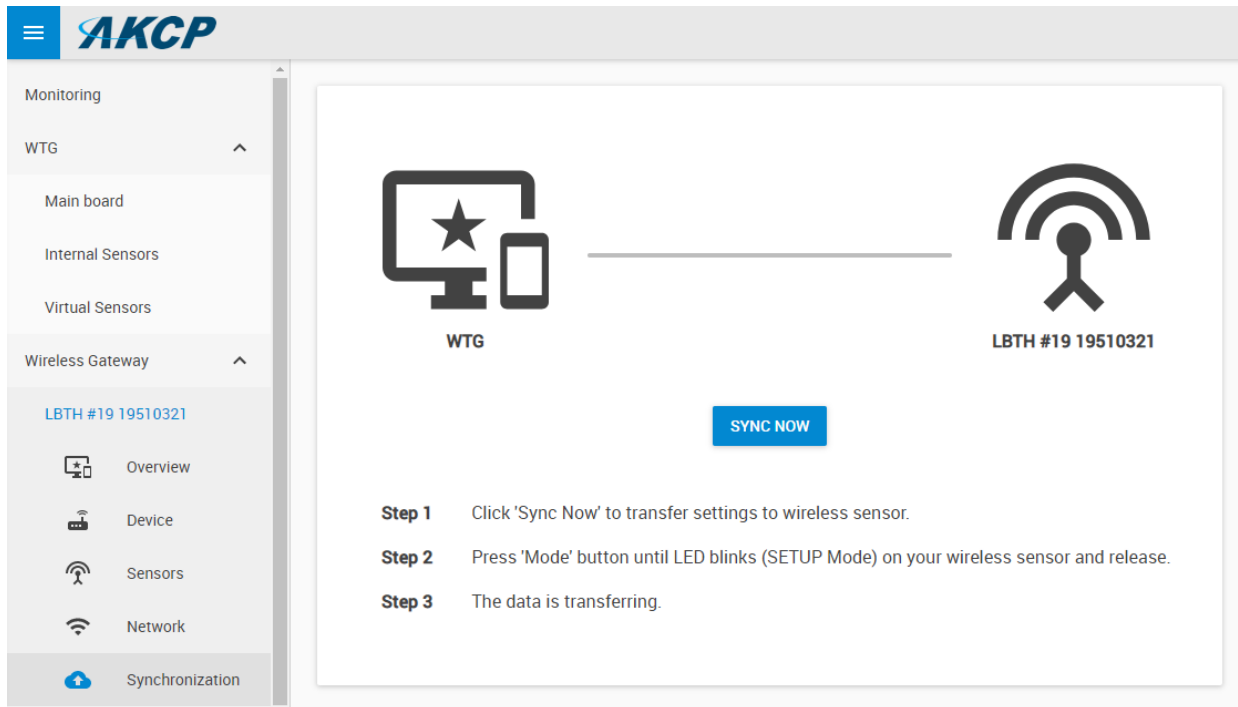
At the bottom of the settings panel are 'SAVE' and 'CANCEL' buttons.

**Important:** the graph sampling period will use the “sensor value collection period” parameter. See details below in the Graphing feature overview.

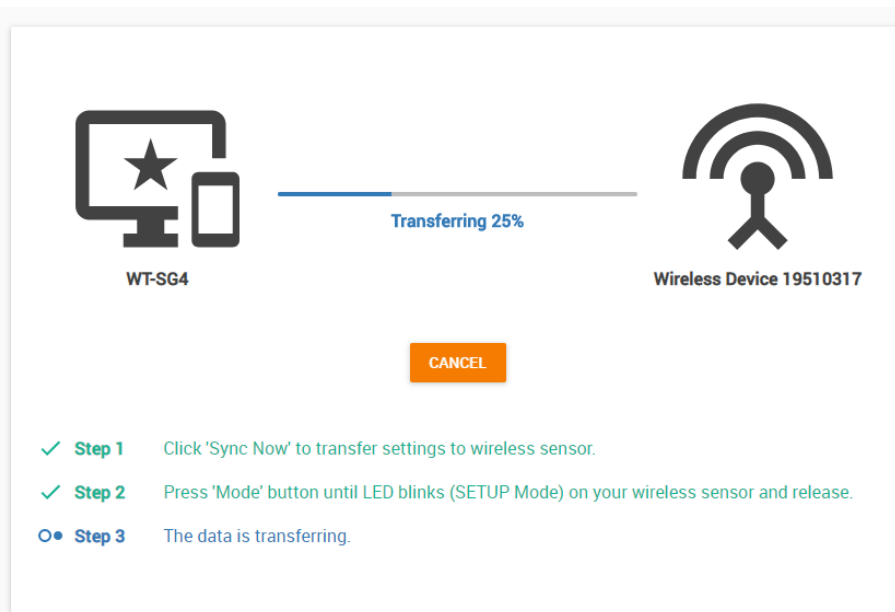
After making any changes, you would need to re-sync the sensor.

This ensures that all configured settings will be sent to the sensor. Without sync, your new thresholds won't be applied.

**Note:** the sensor settings can also be synced automatically the next time that the sensor broadcast a packet, but doing a manual sync is a faster way when the sensor is close at hands.

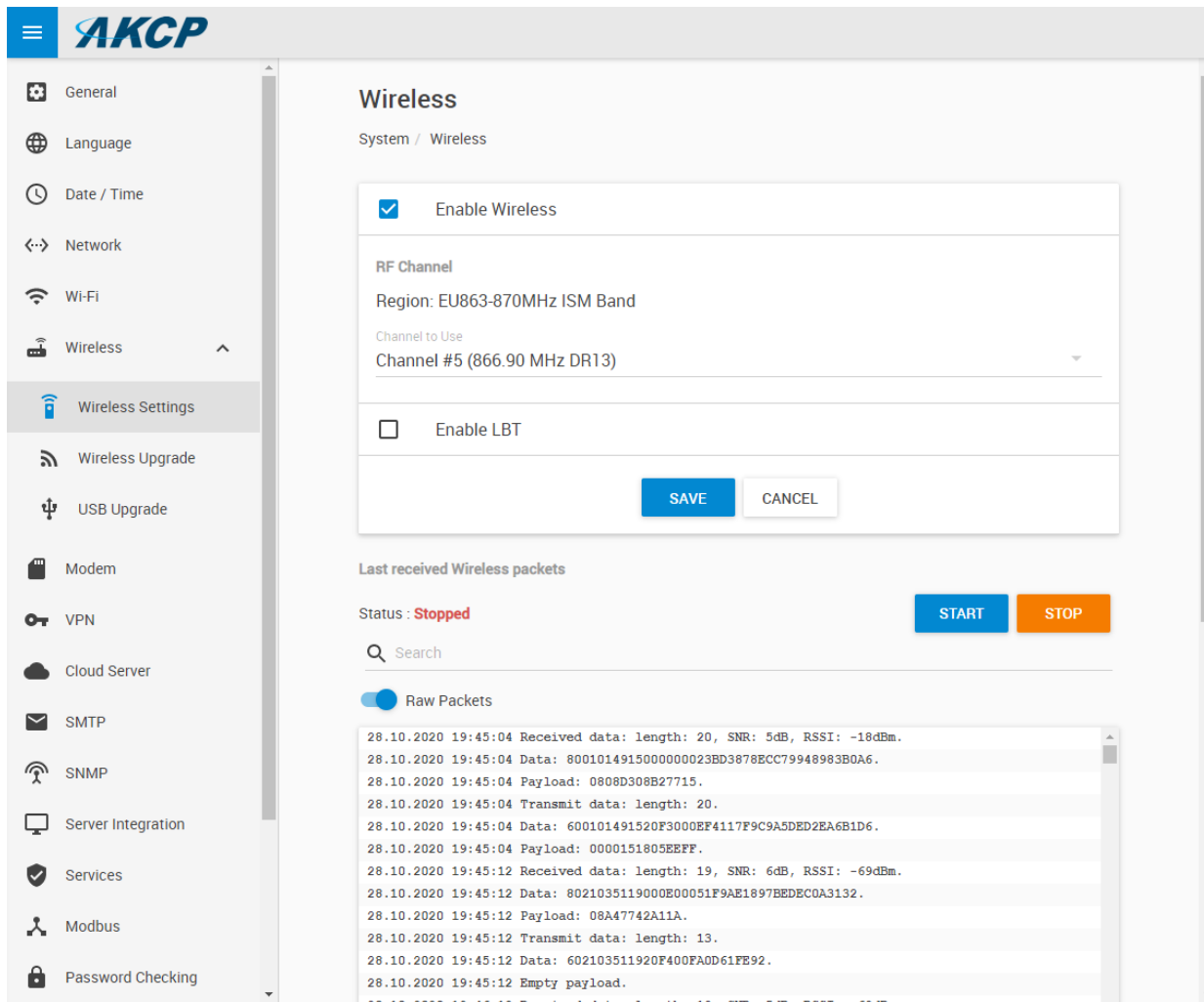


Click **Sync Now** button and follow the instructions on screen (switch the sensor to SETUP mode).



We recommend to change the used LoRa wireless channel, if you are in an environment with high radio traffic that affects sensor reading.

Go to **Settings menu / Wireless / Wireless Settings:**



- Channel #3 (865.30 MHz DR13)
- Channel #4 (866.10 MHz DR13)
- Channel #5 (866.90 MHz DR13)**
- Channel #6 (867.70 MHz DR13)

Choose a different channel which has less radio traffic. The available list of channels will depend on your country's radio frequency regulations.

**Important:** after changing the channel, you will need to manually re-sync your wireless sensors!

The Wireless Settings page also provides a packet logger feature for troubleshooting:

The screenshot displays the AKCP web interface. On the left is a navigation menu with options: General, Language, Date / Time, Network, Wi-Fi, Wireless, Wireless Settings (selected), Wireless Upgrade, USB Upgrade, Modem, VPN, Cloud Server, SMTP, SNMP, Server Integration, Services, Modbus, and Password Checking. The main content area is titled "Last received Wireless packets" and shows a status of "Stopped" with "START" and "STOP" buttons. Below the status is a search bar and a "Raw Packets" toggle switch. A scrollable list of log entries is visible, showing timestamps, data lengths, SNR, RSSI, and payloads. Below this is a section for "Pending Wireless TX Packets" with another search bar and a scrollable area currently displaying "No Logs".

```
28.10.2020 19:45:04 Received data: length: 20, SNR: 5dB, RSSI: -18dBm.
28.10.2020 19:45:04 Data: 800101491500000023BD3878ECC79948983B0A6.
28.10.2020 19:45:04 Payload: 0808D308B27715.
28.10.2020 19:45:04 Transmit data: length: 20.
28.10.2020 19:45:04 Data: 600101491520F3000EF4117F9C9A5DED2EA6B1D6.
28.10.2020 19:45:04 Payload: 0000151805EEFF.
28.10.2020 19:45:12 Received data: length: 19, SNR: 6dB, RSSI: -69dBm.
28.10.2020 19:45:12 Data: 8021035119000E00051F9AE1897EEDEC0A3132.
28.10.2020 19:45:12 Payload: 08A47742A11A.
28.10.2020 19:45:12 Transmit data: length: 13.
28.10.2020 19:45:12 Data: 602103511920F400FA0D61FE92.
28.10.2020 19:45:12 Empty payload.
28.10.2020 19:46:12 Received data: length: 19, SNR: 5dB, RSSI: -69dBm.
28.10.2020 19:46:12 Data: 8021035119000F0005FBC0FA61BD8F00A910D8.
28.10.2020 19:46:12 Payload: 08CC774AA11A.
28.10.2020 19:46:12 Transmit data: length: 13.
28.10.2020 19:46:12 Data: 602103511920F500FAB345C73A.
```

Press **Start** to begin logging of the wireless packets; it will show the received and transmitted packets. The logging will stop automatically, or you can stop it manually.



## C) WTG Network Settings

### Ethernet

You can change the WTG unit's Ethernet network settings under **Settings menu / Network**:

**Network**  
System / Network

IPv4

Use DHCP  Enable  Disable

IP Address

Subnet Mask

Gateway

DNS Source

Domain Name Server #1

Domain Name Server #2

Domain Name Server #3

Network Hostname

Ethernet MAC ID 00:0B:DC:00:18:89

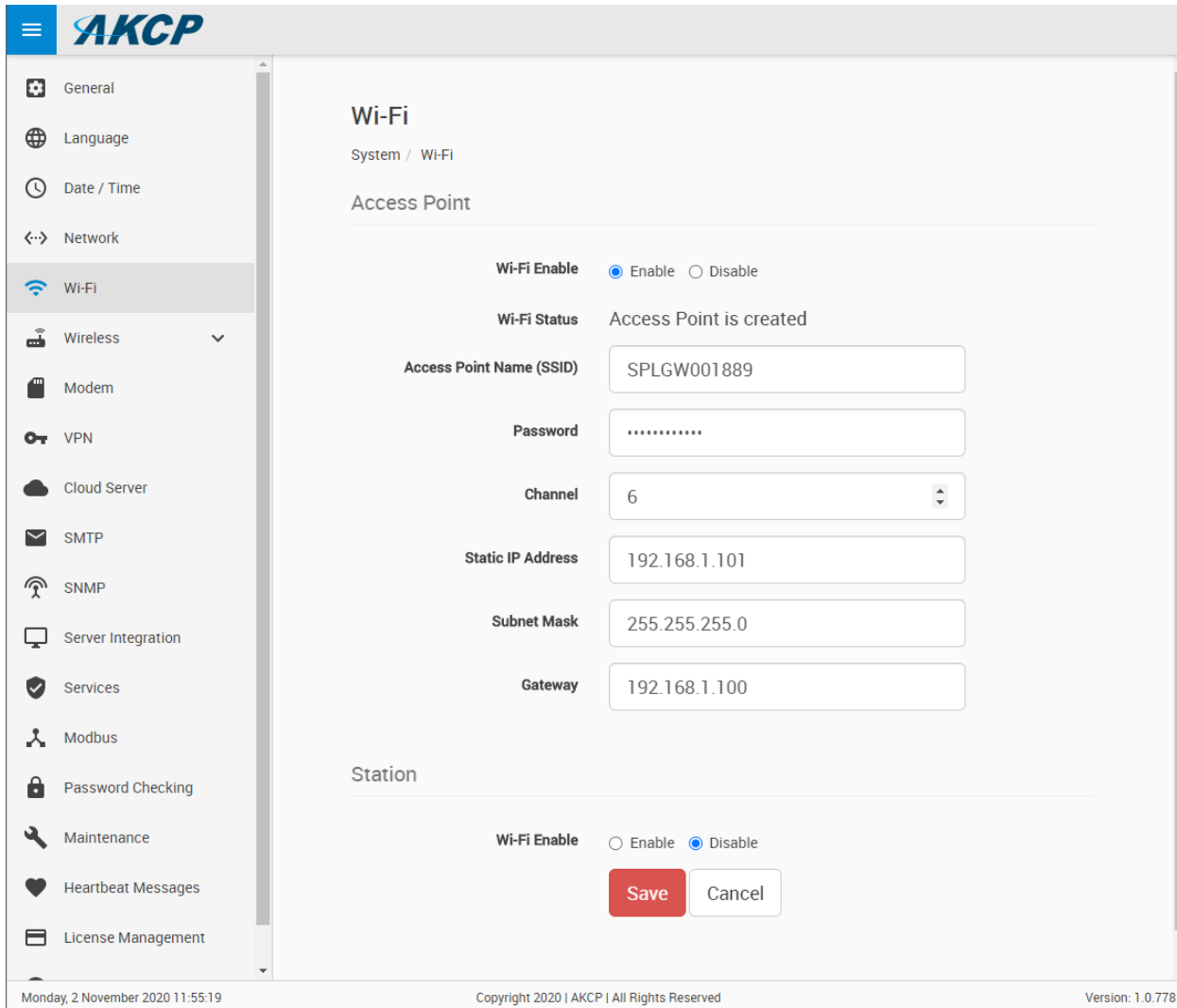
IPv6

IPv6 Address Assignment  DHCPv6  Static

These settings will affect the Ethernet interface only (wired connection).  
IPv6 is also supported on the WTG (requires license).

## WiFi

You can change the WTG unit's WiFi network settings under **Settings menu / WiFi**:



**Wi-Fi**  
System / Wi-Fi

**Access Point**

Wi-Fi Enable  Enable  Disable

Wi-Fi Status Access Point is created

Access Point Name (SSID)

Password

Channel

Static IP Address

Subnet Mask

Gateway

**Station**

Wi-Fi Enable  Enable  Disable

Monday, 2 November 2020 11:55:19 Copyright 2020 | AKCP | All Rights Reserved Version: 1.0.778

The Access Point setup will allow accessing the WTG WebUI. DHCP and DNS are offered for WiFi clients that are connecting to the WTG Access Point.

The Default Access Point settings can be overridden with a user-defined configuration.

**Very Important Note:** on each power cycle of the unit, **the Default Access Point settings will be temporary re-enabled for 5 minutes**, regardless of the current configured WiFi settings. **Only after 5 minutes** the user configured settings will take effect (which can be another Access Point with custom settings or the wireless Station/Client mode to connect to another network).

Press **Save** after making any changes.

To configure Station mode (WiFi client) and connect to an existing WiFi network do the following:

Access Point

Wi-Fi Enable  Enable  Disable

Wi-Fi Status Access Point is disabled

Access Point Name (SSID)

Password

Channel

Static IP Address

Subnet Mask

Gateway

Station

Wi-Fi Enable  Enable  Disable

Set the **Access Point** mode to **Disabled**

Station

Wi-Fi Enable  Enable  Disable

Static IP Address


Subnet Mask

Gateway

Set the **Station** mode to **Enabled** and press **Save**

Station

Choose a Network...

 Loading...

**Wi-Fi Enable**  Enable  Disable

**Use Wi-Fi as default interface**  Yes  No

**Wi-Fi Status** Station is disabled

**Use DHCP**  Enable  Disable

**Static IP Address** 0.0.0.0

**Subnet Mask** 0.0.0.0

**Gateway** 0.0.0.0

The WiFi module will start to search for available WiFi networks to connect to, and display the results.

Station

Choose a Network...

|                  |  |
|------------------|--|
| *****            |  |
| CARIIX           |  |
| @ 3BB_WiFi       |  |
| AKCP             |  |
| AKCP-Guest       |  |
| APSG-0117125G100 |  |
| JOJOE_2.4G       |  |
| one              |  |
| SVC_associate    |  |

**Wi-Fi Enable**  Enable  Disable

**Use Wi-Fi as default interface**  Yes  No

**Wi-Fi Status** Station is disabled

**Use DHCP**  Enable  Disable

**Static IP Address** 0.0.0.0

**Subnet Mask** 0.0.0.0

**Gateway** 0.0.0.0

Choose your WiFi network from the list and click on it.

AKCP

Password

Show password

Enter your WiFi password when prompted.

Station

Choose a Network...

|                                     |                       |  |
|-------------------------------------|-----------------------|--|
| <input checked="" type="checkbox"/> | AKCP                  |  |
| <input type="checkbox"/>            | *****                 |  |
| <input type="checkbox"/>            | CARIIX                |  |
| <input type="checkbox"/>            | AKCP-Guest            |  |
| <input type="checkbox"/>            | one                   |  |
| <input type="checkbox"/>            | MEET_S01_10521C05B8F4 |  |
| <input type="checkbox"/>            | JOJOE_2.4G            |  |

**Wi-Fi Enable**  Enable  Disable

**Use Wi-Fi as default interface**  Yes  No

**Wi-Fi Status** Station is connected

**Use DHCP**  Enable  Disable

**Static IP Address** 10.1.6.31

**Subnet Mask** 255.255.255.0

**Gateway** 10.1.6.2

After the connection was successful, you will see a green tick mark. Otherwise an error popup will be shown.

You can review the WiFi connection details after the WTG has connected.

It will show the IP address, netmask and gateway settings that it received from the WiFi router by DHCP.

You may also select to disable DHCP and manually assign the network configuration for the WiFi network.

## D) License Management

You can review the current license under **Settings menu / License Management**:

**License Management**  
System / License Management

[Request License](#) [Refresh](#)

| License Type ▲      | Total ▲ | Used ▼ | Remaining ▼ |
|---------------------|---------|--------|-------------|
| 3rd Party Modbus    | 0       | 0      | 0           |
| 5 Dry Contact       | 0       | 0      | 0           |
| Access Control User | 100     | 1      | 0           |
| Graphs              | ×       | ×      | ×           |
| Heartbeats          | ×       | ×      | ×           |
| IPv6                | ×       | ×      | ×           |
| Maps                | ×       | ×      | ×           |
| Notifications       | ×       | ×      | ×           |
| RADIUS              | ×       | ×      | ×           |
| SNMPv3              | ×       | ×      | ×           |
| Virtual Sensors     | 5       | 0      | 5           |
| VPN                 | ×       | ×      | ×           |

**License Key**

Search License Key  [+](#) Add [Refresh](#)

This page will show the current state of licensed features.  
Scroll down to view any License Keys that are installed for your WTG.

All units are shipped with the default license. This has some restrictions on product usage - most features will be disabled, such as virtual sensors, graphing, notifications (see details below).

### License Key


Search License Key

| License Key ▲   | 5 Dry Contact ▼ | Access Control User ▼▲ | Virtual Sensors ▼▲ | 3rd Party Modbus ▼▲ | SNMPv3 ▼▲ | VPN ▼▲ | IPv6 ▼▲ | RADIUS ▼▲ | Notifications ▼▲ | Heartbeats ▼▲ | Maps ▼▲ | Graphs ▼▲ | Status ▲  |
|-----------------|-----------------|------------------------|--------------------|---------------------|-----------|--------|---------|-----------|------------------|---------------|---------|-----------|-----------|
| Default License | 0               | 1                      | 5                  | 0                   | ×         | ×      | ×       | ×         | ×                | ×             | ×       | ×         | Activated |

When you attempt to use a feature that requires a license, you will see a notification:

### Request License

License Management



## License is required

Buy a license to unlock this feature. By buying a license, these features will unlock

- ✓ 5 Dry Contact
- ✓ SNMPv3
- ✓ VPN
- ✓ 3rd Party Modbus
- ✓ Virtual Sensors
- ✓ Access Control User
- ✓ Notifications
- ✓ Heartbeats
- ✓ Cloud
- ✓ Maps
- ✓ Graphs

Contact Sales for a quotation for your required licensed features by clicking **Request License**.



When you receive the license key, click on **Add** and copy-paste the key:

### Add License ✕

Enter License Key

**Add**

### License Key

Search License Key

| License Key <span>▲</span> | 5 Dry Contact <span>▼</span> | Access Control User <span>▼</span> | Virtual Sensors <span>▼</span> | 3rd Party Modbus <span>▼</span> | SNMPv3 <span>▼</span> | VPN <span>▼</span> | IPv6 <span>▼</span> | RADIUS <span>▼</span> | Notifications <span>▼</span> | Heartbeats <span>▼</span> | Maps <span>▼</span> | Graphs <span>▼</span> | Status <span>▲</span>                      |
|----------------------------|------------------------------|------------------------------------|--------------------------------|---------------------------------|-----------------------|--------------------|---------------------|-----------------------|------------------------------|---------------------------|---------------------|-----------------------|--|
| Default License            | 0                            | 1                                  | 5                              | 0                               | ✘                     | ✘                  | ✘                   | ✘                     | ✘                            | ✘                         | ✘                   | ✘                     | Activated                                  |
|                            | ∞                            | ∞                                  | ∞                              | ∞                               | ✔                     | ✔                  | ✔                   | ✔                     | ✔                            | ✔                         | ✔                   | ✔                     | Activated <input type="button" value="✖"/> |

You will see a green tick-mark for the enabled features, and the number of Virtual Sensors, Access Control Users etc. that your license allows to use.

*Note:* the entered license will remain in effect even if your unit is returned to factory defaults.

You must reboot the device after making any changes.

*Hint:* when prompted for reboot, the default Admin user password is “public”.

## E) Cloud WebUI

The AKCP Cloud service is used for WebUI forwarding of supported devices using VPN, and is a licensed feature. The forwarding will enable accessing the unit's WebUI from anywhere in the world by logging in to the AKCP Cloud dashboard with the unit's MAC ID.

Because the Cloud service will enable world-wide access to the unit's WebUI by using the MAC ID, the unit's owner has to set up and enable the additional WebUI password protection to prevent unauthorized access.

### Connecting your device to cloud.akcp.com

1. Copy the device MAC ID from the unit's **About** page, for example: 00:0B:DC:01:47:A4

The screenshot displays the 'About' page of the AKCP WebUI. On the left is a navigation menu with various settings categories. The main content area shows the following information:

|                                |  |
|--------------------------------|--|
| <b>System Description</b>      | WT-SG4 F7 1.0.241 Jul 31 2020 10:08:39 |
| <b>Manufacturing Date</b>      | Monday, 27 April 2020                  |
| <b>Manufacturer Name</b>       | AKCP                                   |
| <b>Product Name</b>            | WT-SG4                                 |
| <b>Product Code</b>            | -                                      |
| <b>Ethernet MAC ID</b>         | 00:0B:DC:01:47:A4                      |
| <b>Modem IMEI Number</b>       | -                                      |
| <b>Modem Version</b>           | -                                      |
| <b>Total Number of Sensors</b> | 27                                     |

2. Send a request email to AKCP Sales [sales@akcp.com](mailto:sales@akcp.com) to add your unit to AKCP Cloud

You will get a reply with the Cloud VPN password, which you will need to enter manually on your unit to connect.

3. Check that your unit can **resolve hostnames** with DNS server correctly (contact your network administrator, if you are not sure)

The screenshot shows the AKCP web interface with a sidebar menu on the left containing options like General, Language, Date / Time, Network, Wireless, VPN, Cloud Server, SMTP, SNMP, Server Integration, and Services. The main content area is titled 'Network' and shows the 'IPv4' configuration. The 'Use DHCP' option is set to 'Disable'. The 'IP Address' is 192.168.1.180, 'Subnet Mask' is 255.255.255.0, and 'Gateway' is 192.168.1.1. The 'DNS Source' is set to 'Static', and the 'Domain Name Server #1' is 8.8.8.8.

4. Go to **Cloud Server page** on the unit and fill out the **password** which was set up for your unit at the AKCP Cloud dashboard, click **Enable** and then **Save**.

**Cloud Server**

System / Cloud Server

**Cloud Server**  Enable  Disable

**Status** Not Connected

**IP Address** N/A

**Cloud Server Password** .....

**Confirm Cloud Password** .....

**Save** **Cancel**

**Important:** The unit will need to be rebooted after the changes.

**Note:** the **VPN** and **Server Integration** pages will be automatically hidden if the Cloud Server settings are set up. This is because Cloud server uses VPN, and Server Integration needs to be disabled when using Cloud service.

5. **Reboot** the unit and wait for the device to be connected.

The screenshot displays the AKCP web interface. On the left is a sidebar menu with the following items: General, Language, Date / Time, Network, Wireless, Cloud Server (highlighted), SMTP, SNMP, Services, Modbus, and Password Checking. The main content area is titled "Cloud Server" and shows the following configuration details:

- Cloud Server:**  Enable  Disable
- Status:** Connected
- IP Address:** 10.240.0.3
- Cloud URL:** <https://00-0b-dc-46-43-06.cloud.akcp.com>
- Cloud Server Password:** [Masked with dots]
- Confirm Cloud Password:** [Masked with dots]

At the bottom of the configuration area are two buttons: a red "Save" button and a white "Cancel" button.

The Cloud URL will also be displayed for quick access.

If there's any connection issues (password, cannot resolve name etc.), it will be logged in the Event Log:

The screenshot shows the AKCP System Event Log interface. At the top, there is a search bar and two buttons labeled 'FILTER' and 'EXPORT'. Below these is a table with three columns: 'Date / Time', 'Message', and 'Level'. The table contains 20 entries, including VPN connection failures, system boot up events, and firmware upgrade notices. At the bottom of the table, there are navigation arrows and a 'Display 20' dropdown menu.

| ↓ Date / Time       | Message   | ↑ Level     |
|---------------------|---|-------------|
| 05/08/2020 15:55:46 | VPN link up (IP: 10.240.0.2)  | Information |
| 05/08/2020 15:53:33 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:53:30 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:52:08 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:52:05 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:50:53 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:49:49 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:48:32 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:48:28 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:46:27 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:46:19 | System boot up (HTTP command)   | Information |
| 05/08/2020 13:16:39 | System boot up (Power On)   | Information |
| 04/08/2020 13:54:36 | Firmware upgrade was successfully completed                                       | Notice      |
| 04/08/2020 13:52:56 | Firmware uploaded successfully from IP 192.168.1.200. Updating...                 | Notice      |
| 04/08/2020 13:45:00 | System boot up (Power On)   | Information |
| 04/08/2020 13:42:56 | Ethernet link restored  | Information |
| 04/08/2020 13:42:30 | Ethernet link lost  | Information |
| 04/08/2020 13:39:50 | System boot up (Power On)   | Information |
| 22/06/2020 22:48:51 | Wireless device (19510317) power source change to USB                             | Warning     |
| 22/06/2020 16:33:49 | Wireless device (19510317) rebooted   | Warning     |

6. Go to <http://cloud.akcp.com>, and log in with the Device MAC ID, e.g. 00:0B:DC:01:47:A4

# AKCPro Cloud

Device ID

00:0B:DC:01:47:A4

**LOG IN**

Copyright 2020 | AKCP | All Rights Reserved

7. The WebUI of the connected device will load (first time loading could be slow), and the HTTPS certificate should show as valid from LetsEncrypt:

The screenshot shows the AKCP web interface for a device named 'SP2+LG (Gabor)'. The interface includes a sidebar with a search bar and a list of device components. A table displays the status of various units. A 'Certificate' dialog box is open, showing certificate details.

| Unit                       | Name | Value | Status        |
|----------------------------|------|-------|---------------|
| <b>WT-SG</b>               |      |       |               |
| + Main board               |      |       | Sensor Error  |
| + Internal Sensors         |      |       | Off           |
| + Virtual Sensors          |      |       | Sensor Error  |
| <b>Wireless Gateway</b>    |      |       |               |
| + Wireless Gateway         |      |       | Not Connected |
| - Wireless Device 19510317 |      |       | Unknown (1)   |
| - Wireless Device 19510317 |      |       | Unknown (1)   |
| - Wireless Device 19510317 |      |       | Unknown (1)   |
| - Wireless Device 19510317 |      |       | Unknown (1)   |
| - Wireless Device 19510317 |      |       | Unknown (1)   |

### Certificate Information

**This certificate is intended for the following purpose(s):**

- Proves your identity to a remote computer
- Ensures the identity of a remote computer
- 2.23.140.1.2.1
- 1.3.6.1.4.1.44947.1.1.1

\* Refer to the certification authority's statement for details.

**Issued to:** \*.cloud.akcp.com

**Issued by:** Let's Encrypt Authority X3

**Valid from:** 7/20/2020 to 10/18/2020

Issuer Statement

OK



## Cloud Troubleshooting

### 1. First check for common connection issues:

- Wrong password
- Unit cannot resolve DNS name or no Internet access
- Unit's cloud license expired
- Unit disabled in Cloud console

Check the unit's Event Log for problems:

**System**  
Events / System

Search

**FILTER** **EXPORT**

| ↓ Date / Time       | Message   | ↑ Level     |
|---------------------|---|-------------|
| 05/08/2020 15:55:46 | VPN link up (IP: 10.240.0.2)  | Information |
| 05/08/2020 15:53:33 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:53:30 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:52:08 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:52:05 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:50:53 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:49:49 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:48:32 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:48:28 | VPN connection to cloud.akcp.com:1194 failed (code -4, Failed to connect to host) | Error       |
| 05/08/2020 15:46:27 | VPN connection to cloud.akcp.com:1194 failed (code -8, Invalid password)          | Error       |
| 05/08/2020 15:46:19 | System boot up (HTTP command)   | Information |
| 05/08/2020 13:16:39 | System boot up (Power On)   | Information |
| 04/08/2020 13:54:36 | Firmware upgrade was successfully completed                                       | Notice      |
| 04/08/2020 13:52:56 | Firmware uploaded successfully from IP: 192.168.1.200. Updating...                | Notice      |
| 04/08/2020 13:45:00 | System boot up (Power On)   | Information |
| 04/08/2020 13:42:56 | Ethernet link restored  | Information |
| 04/08/2020 13:42:30 | Ethernet link lost  | Information |
| 04/08/2020 13:39:50 | System boot up (Power On)   | Information |
| 22/06/2020 22:48:51 | Wireless device (19510317) power source change to USB                             | Warning     |
| 22/06/2020 16:33:49 | Wireless device (19510317) rebooted   | Warning     |

1 2 3 4 > | Display 20

2. Contact Support and ask for help resolving the issue: [support@akcp.com](mailto:support@akcp.com)

The screenshot shows the AKCP web interface. On the left is a navigation menu with the following items: General, Language, Date / Time, Network, Wireless, VPN, Cloud Server, SMTP, SNMP, Server Integration, Services, Modbus, Password Checking, Maintenance, Heartbeat Messages, License Management, and About (which is highlighted). The main content area is titled 'About' and shows the following system information:

|                                |  |
|--------------------------------|--|
| <b>System Description</b>      | WT-SG4 F7 1.0.241 Jul 31 2020 10:08:39 |
| <b>Manufacturing Date</b>      | Monday, 27 April 2020                  |
| <b>Manufacturer Name</b>       | AKCP                                   |
| <b>Product Name</b>            | WT-SG4                                 |
| <b>Product Code</b>            | -                                      |
| <b>Ethernet MAC ID</b>         | 00:0B:DC:01:47:A4                      |
| <b>Modem IMEI Number</b>       | -                                      |
| <b>Modem Version</b>           | -                                      |
| <b>Total Number of Sensors</b> | 27                                     |

Note your device's MAC ID and System Description.

## F) Features overview

### About device

In **Settings menu / About** you can review the details of your device:

The screenshot shows the 'About' page in the AKCP web interface. The left sidebar contains a menu with various settings options, and the main content area displays system information.

|                                |                                     |
|--------------------------------|-------------------------------------|
| <b>System Description</b>      | WTG F7 1.0.778 Oct 28 2020 10:51:10 |
| <b>Manufacturing Date</b>      | Tuesday, 25 February 2020           |
| <b>Manufacturer Name</b>       | AKCP                                |
| <b>Product Name</b>            | WTG                                 |
| <b>Product Code</b>            | WTSG                                |
| <b>Ethernet MAC ID</b>         | 00:0B:DC:00:18:89                   |
| <b>Modem IMEI Number</b>       | 868959031465709                     |
| <b>Modem Version</b>           | SIM5360E_V3.5                       |
| <b>Total Number of Sensors</b> | 75                                  |

Monday, 2 November 2020 12:14:56 Copyright 2020 | AKCP | All Rights Reserved Version: 1.0.778

It contains important information such as the firmware version, product type, MAC ID and the total number of sensors.

It is a good practice to make a screenshot of this page when you contact Support.

## Virtual Sensors

You can access the Virtual Sensor configuration under **Sensors menu / Virtual Sensors**:

| Sensor ID | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 2         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 3         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 4         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 5         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 6         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 7         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 8         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 9         | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 10        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 11        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 12        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 13        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 14        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 15        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 16        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 17        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 18        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 19        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 20        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 21        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 22        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 23        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 24        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 25        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 26        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 27        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 28        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 29        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 30        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 31        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 32        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 33        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 34        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 35        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 36        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 37        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 38        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 39        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 40        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 41        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 42        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 43        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 44        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 45        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 46        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 47        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 48        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 49        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 50        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 51        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 52        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 53        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 54        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 55        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |
| 56        | N/C | N/C | N/C | N/C | N/C | N/C | N/C | N/C |

The configuration and supported features are the same as on our sensorProbe+ family units. Contact Support for the sensorProbe+ manual that contains the Virtual Sensor configuration details.

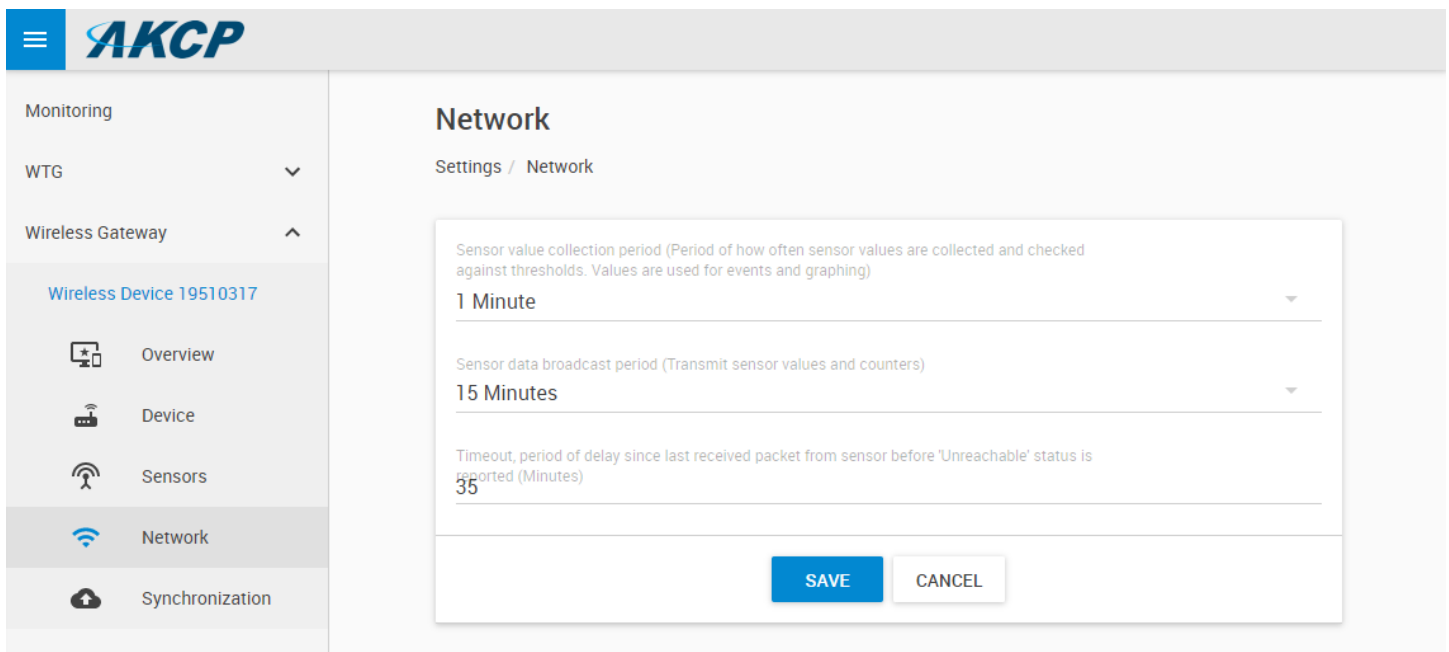
**Note:** you will need virtual sensor license to be able to use this feature.

## Graphing

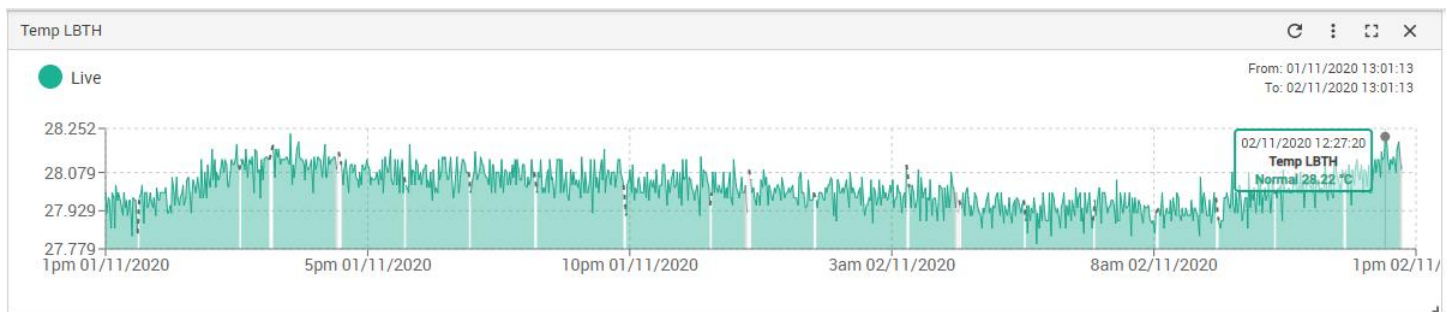
You will need to manually enable graphing collection for any virtual sensors one by one. For wireless sensors, the graphing is automatically enabled – but to be able to see the collected graph data, you will need graph license.

The supported graph features are the same as on our sensorProbe+ family units.

The wireless sensor graph collection period settings are set on each sensor’s settings page (sensor value collection period):



**Note:** after making changes, you will need to re-sync the wireless sensor and any existing graph data will be deleted!



**Important:** WTG supports up to 32 WTS sensors graph, including multi-sensor WTS. For example, on WTS-TH there are both Temperature & Humidity sensors.

The virtual sensor graph collection period is set on the General page under the Settings menu:

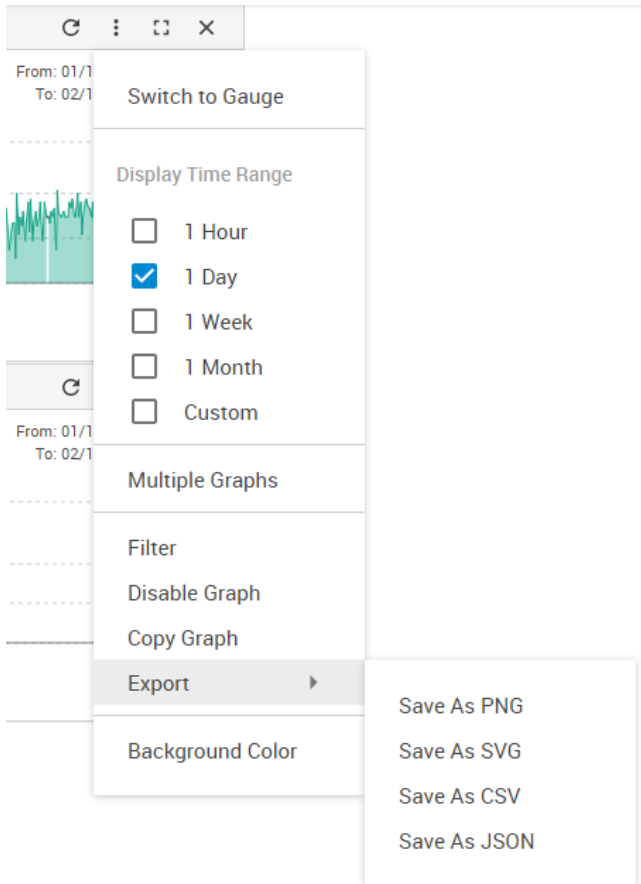
The screenshot displays the AKCP web interface's 'General' settings page. On the left is a navigation menu with options like Language, Date / Time, Network, Wireless, Modem, VPN, Cloud Server, SMTP, SNMP, Server Integration, Services, Modbus, Password Checking, Maintenance, Heartbeat Messages, and License Management. The main content area is titled 'General' and shows system information: 'System Description' (WT-SG4 F7 1.0.315 Oct 12 2020 07:06:30) and several input fields for 'System Name', 'System Location', 'System Contact', 'System URL' (http://www.example.com), 'GPS Latitude' (0.0), and 'GPS Longitude' (0.0). A section for 'Sensor Notification On System Boot Up' has 'On' selected. The 'Graph Data Collection Period' is set to 300 with a unit of 5m 0s, highlighted by a red box. A note below indicates 'Graph data can be stored for 106 days 15h 10m 0s.' At the bottom, there are 'Language' (English) and 'Manage' buttons, and 'Save' and 'Cancel' buttons.

**Note:** after making changes, any existing graph data will be deleted!

**Important:** WTG supports up to 14 virtual and wired sensors graph.

You can set further graph options for a sensor after opening the graph gauge and clicking the 3-dot menu in the top right corner.

Remember to export your graph data as it is not included in the backup.





Please contact [support@akcp.com](mailto:support@akcp.com) if you have any further technical questions or problems.

**Thanks for Choosing AKCP!**