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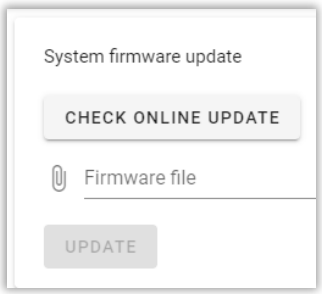
Phantom Gateway 2.0 Firmware Version 62

To load FW version 62 on a gateway with Internet access, use the **Check Online Update** button in the System Tools tab of the Gateway Admin Console.

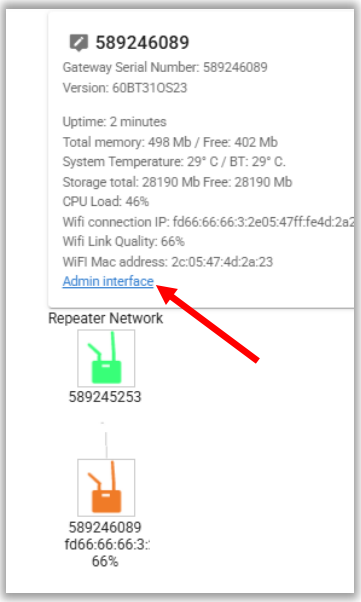


For manual firmware updates, the Firmware file may be downloaded from this URL:

https://pfw.erbessd-instructments.com/gwupdate-62.bin

NOTE – Subordinate Gateways should be updated first and the Main Gateway last.

Access each Sub GW through the Admin interface Link on the Repeater Tab of the Admin Console:



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+52 (55) 6280-7264 México
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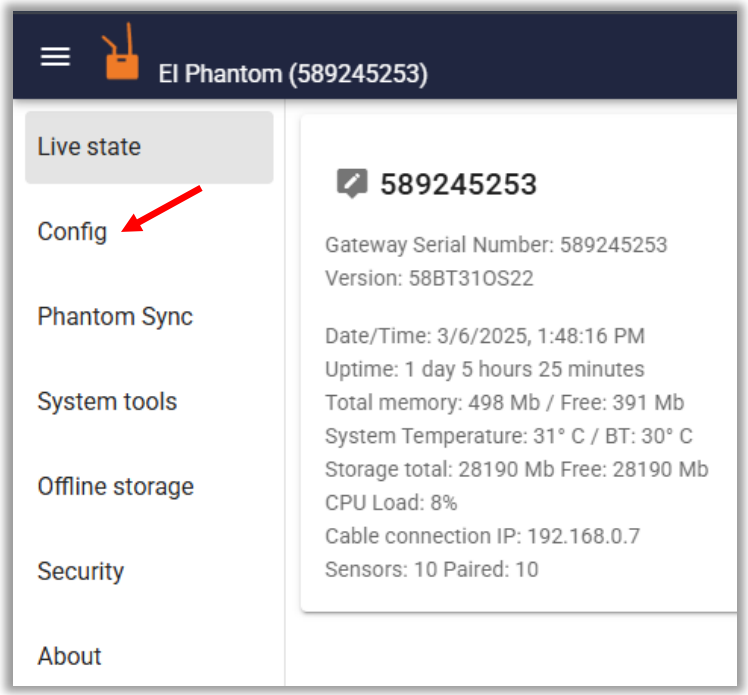
New features/functionality

Admin Console Config Menu

A new **Config** tab has been added to the Main Gateway Admin Console page:



Tabs that were previously located on the Main menu have been moved here. Multiple parameters may now be changed and applied with ONE reset of the Gateway software.

The General tab is opened by default. Tabs for the following have been moved:

- Collection -Global settings
- EI-Analytic
- Modbus
- MQTT

Changes can be made on multiple tabs and then saved at once.

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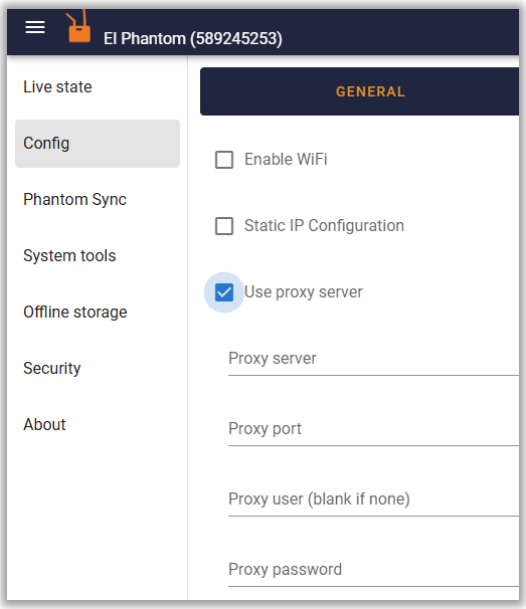
Proxy Server Support

A proxy server may now be administered in the **General** Tab of the **Config** menu. A Proxy server can provide a single point of contact for all Internet-bound Phantom Gateway traffic. Proxy servers provide improved security by managing all web traffic (filters, Firewalls), relaying bidirectional data between source and destination.

All Phantom Gateway data forwarded to EI Analytic will be sent to the Proxy, which relays it to the EI-Analytic website. The Proxy will also support connections to the remote access server (used for logging into a gateway from EI - Analytic).

Enter the Proxy server URL, the TCP port used, and optionally a Proxy User name and password.



Gateways use the CONNECT method for establishing communication with a Proxy. This method requests that a Proxy establish a HTTP tunnel to a destination server, and if successful, forward data in both directions until the tunnel is closed. For details see: https://developer.mozilla.org/en-US/docs/Web/HTTP/Methods/CONNECT

Testing was conducted using SQUID (a web caching proxy) see https://www.squid-cache.org/

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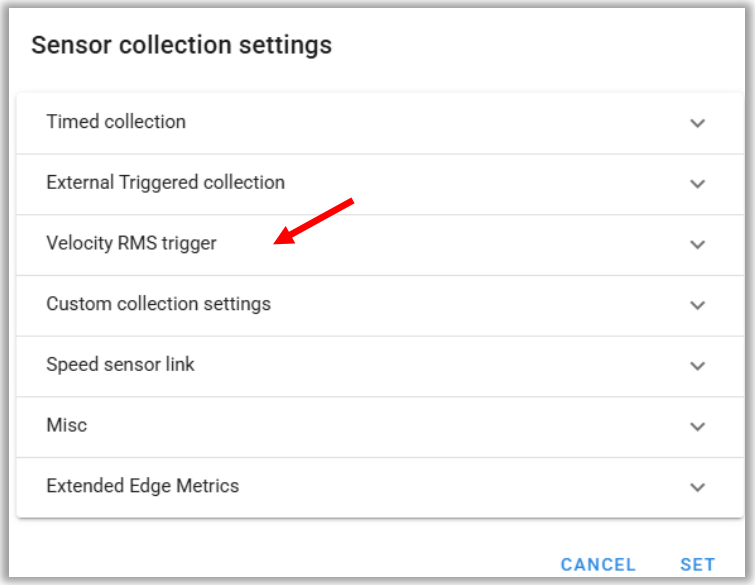
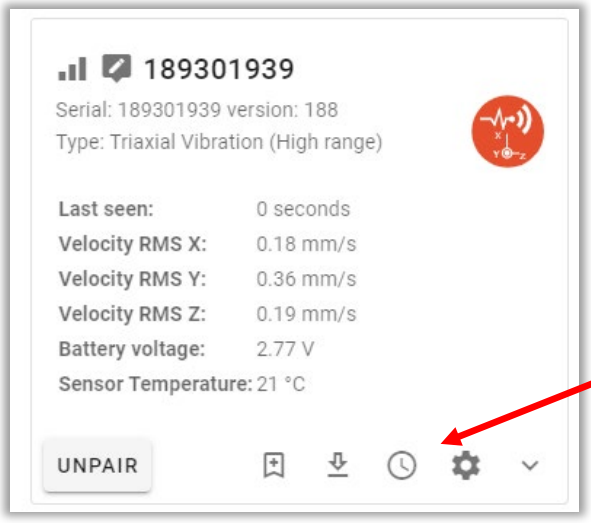
Rename RMS Alarm to RMS Trigger

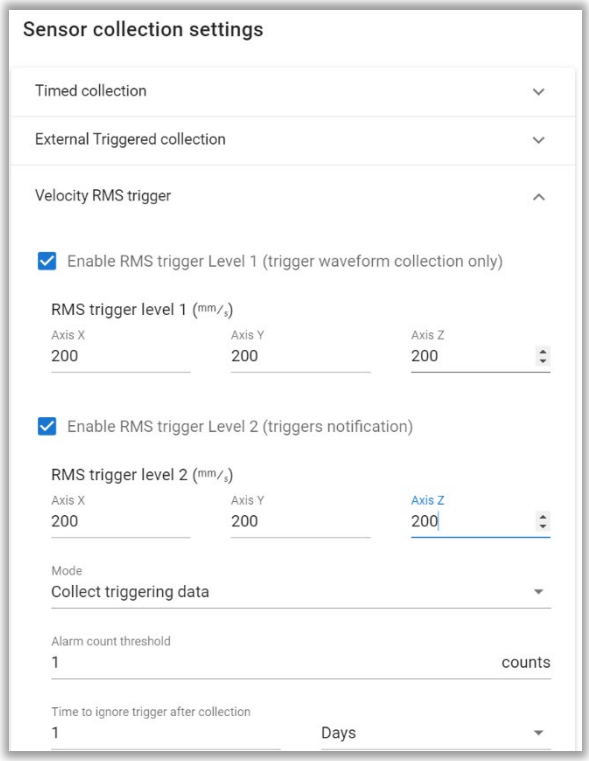
The **Velocity RMS Alarms** section of the Sensor Collection Settings has been renamed to **Velocity RMS trigger** to more accurately describe its function and avoid confusion with *Alarms* which are thresholds used to determine the colors shown in the database tree in Digivibe, EI-Analytic or the Wiser Vibe app.



RMS Velocity trigger limit Increase

The value administered in the RMS Velocity trigger level 1 and level 2 fields of a Phantom vibration sensor may now bet set to a maximum of 200 mm/second.





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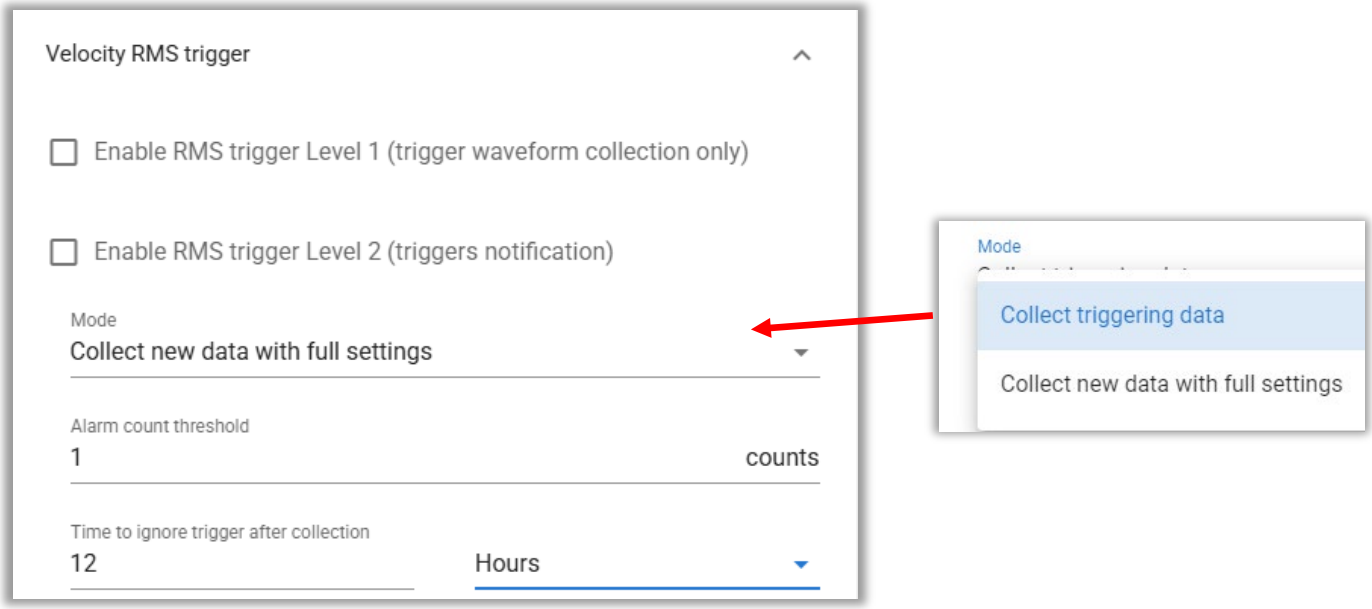
The **Mode** field determines whether to use the original data that caused the trigger (RMS), or take new data:



NOTE - Please ensure the **Mode** setting is changed from default to **Collect new data with full settings** if you want to trigger a waveform collection. **Collect triggering data** will only relay the original RMS reading that caused a Level 1 trigger!

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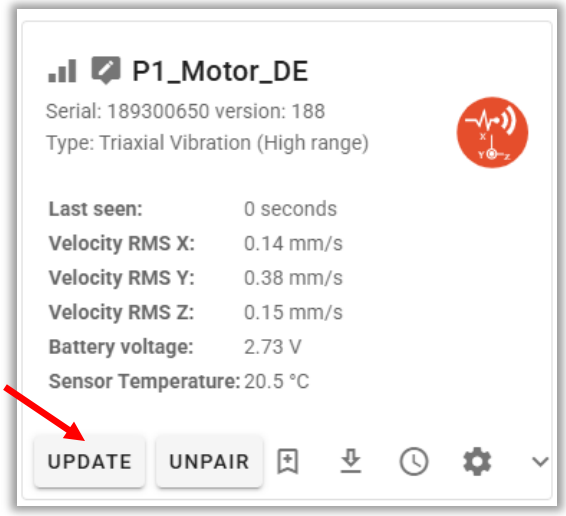
New Sensor Firmware for Triaxial Phantoms

Firmware version 190 is now available for V10 and V11 Phantom sensors.

Once FW62 is loaded, each sensor can be updated using the **Update** button in the Live State screen:



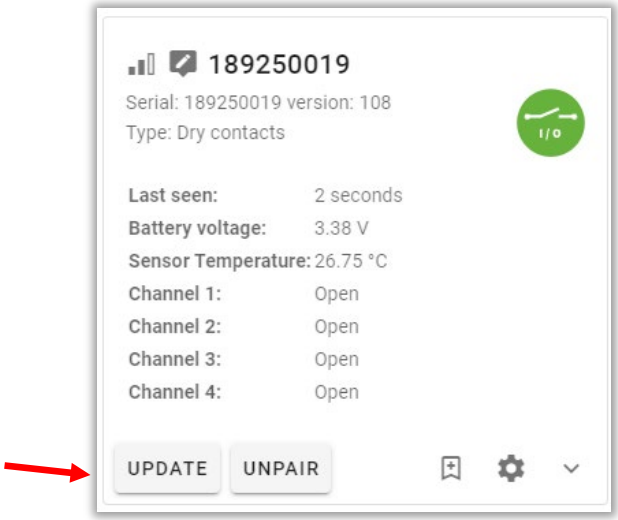
±64g support for new V11 Phantoms

Newer model sensors are now shipping and have support for ±64g of acceleration.

New Sensor Firmware for Specialty Phantoms

Firmware versions for <u>new</u> Phantom sensors equipped with AA batteries are included in Gateway Firmware 62.

- EPH-S40 Speed
- EPH-C31 Current
- EPH-T25 Temperature
- EPH-G60 2VPP
- EPH-G61 4-20mA GPIO
- EPH-G62 Dry Contact
- EPH-G63 0-10 Volt GPIO
- EPH-T70 Thermal Camera



NOTE - The Live state screen will show <u>all</u> existing Specialty sensors as eligible for an update. It is **<u>not</u>** necessary to update any existing Phantom sensor that uses AAA batteries or a wired power source. However, if the update is applied to such a sensor, it will have no impact on its operation.

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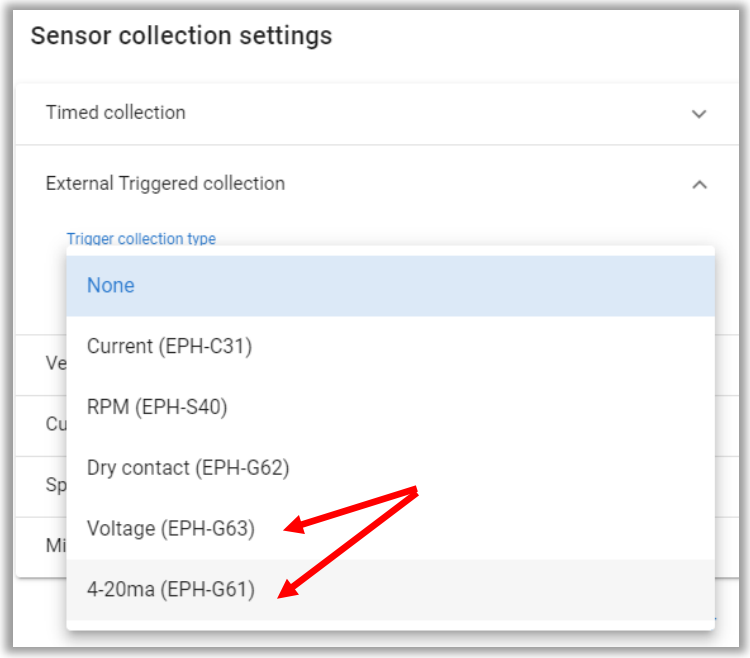
Trigger from Phantom GPIO Sensors

The Phantom triggering feature has been enhanced to add the GPIO (EPH-G61 4-20mA and EPH-G63 0-10V) sensors to the list of Phantoms that can be used to trigger a vibration sensor (EPH-V11E or V10E) or an EPH-T70 Thermographic camera.



Example of a sensor setting when a 4-20 mA sensor is used to trigger:

1. Select 4-20ma from the **Type** field
2. Pick the **triggering sensor** serial number from the list of available Phantoms
3. Set the **Time to ignore trigger after collection** value. This sets an interval between triggered events. Once the timer has elapsed, and the Min/Max conditions are met, a new trigger will occur.
4. Set **Min and Max Current** to define the range in which it must fall to cause a trigger event.
5. Press **SET** to save changes.

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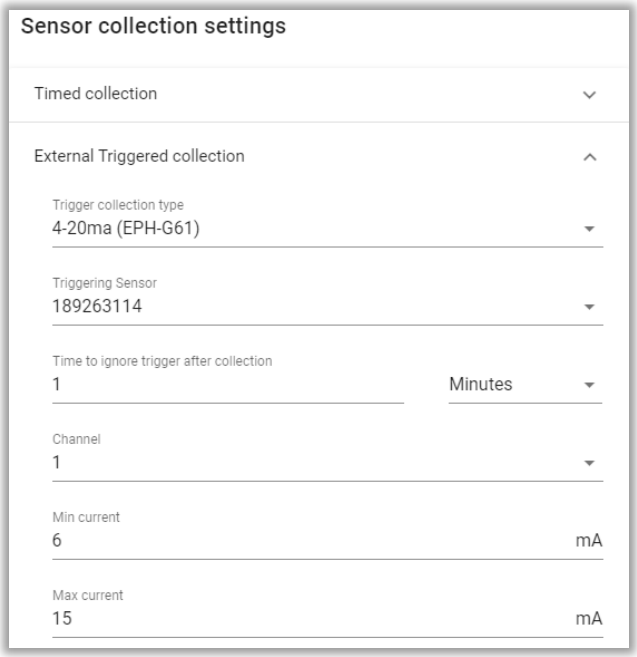
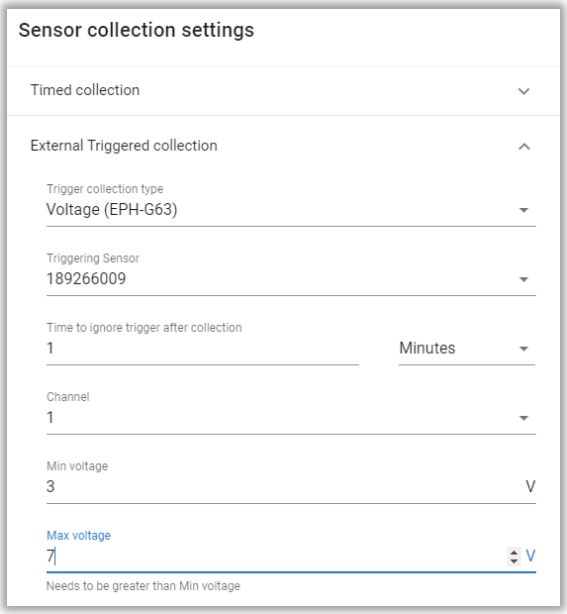
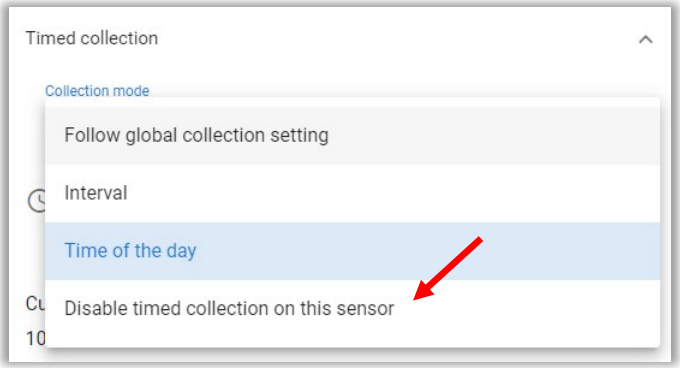


Example for 0-10 Volt Phantom:



Note – A Triggered collection setting is independent of the normal **Timed collection** setting for a V10/V11/T70 sensor. If regular Timed collections are not desired, set the Timed collection to **disabled**. Only triggered collections will then be be provided.



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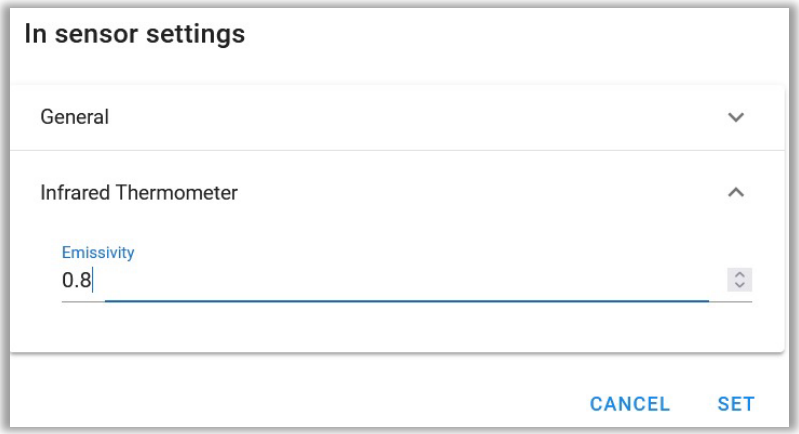
New Firmware for EPH-T20 IR Temp Phantom

A new firmware version is available for this sensor to include the ability to administer the **emissivity** setting from the Gateway Admin Console. Previously, this was only possible by using the Phantom Manager mobile App.

Enter a value between 0.1 and 1.0, depending on the type of material to be measured.



Material	Emissivity
Polished silver	0.02
Polished copper	0.03
Polished gold	0.03
Aluminum foil	0.07
Wood	0.85
Asphalt pavement	0.9
White paint	0.9
Vegetation	0.94
White paper	0.94
Water	0.95
Black paint	0.98

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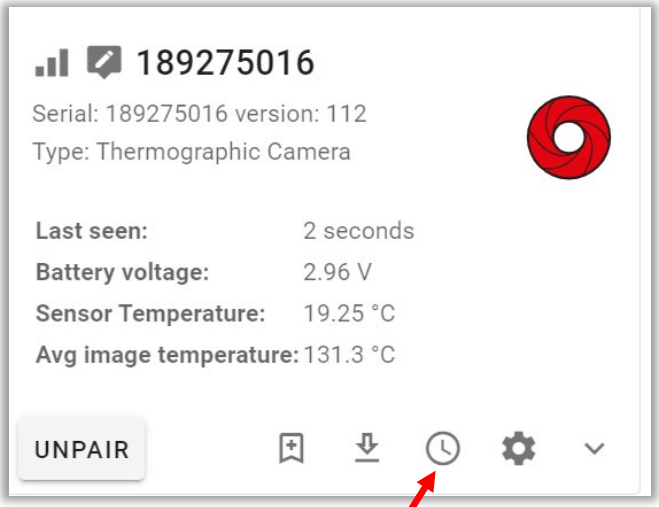
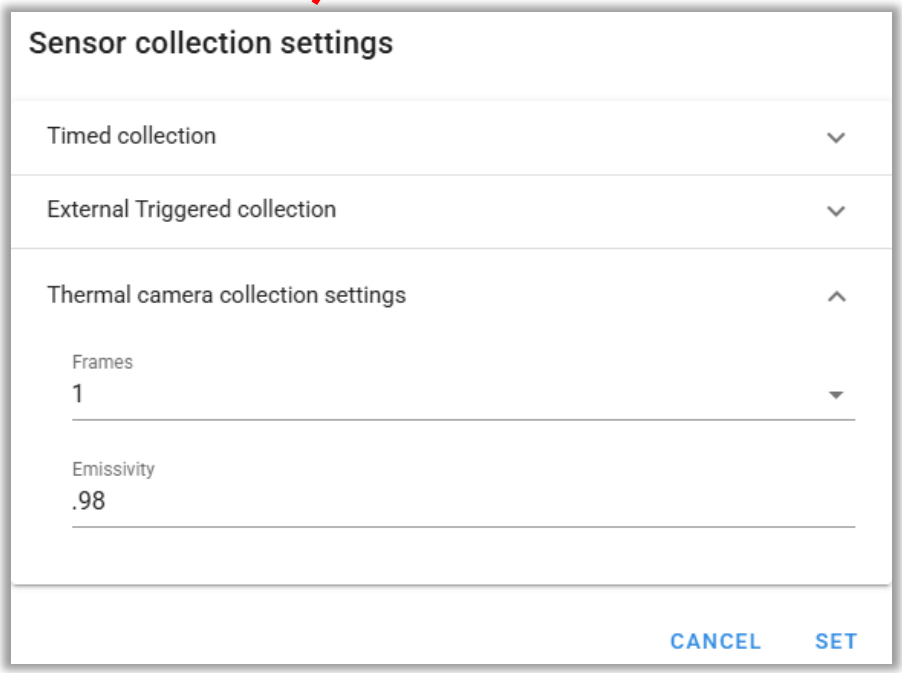
New Firmware for EPH-T70 Thermographic Camera

A new firmware version (112)is available for this sensor to add the ability to administer the **emissivity** setting from the Gateway Admin Console. Previously, this was only possible by using the Phantom Manager mobile App.

Emissivity - Enter a value between 0.1 and 1.0, depending on the type of material to be measured (defaults to 1).

Frames - the number of Frames from 1 to 16 can also be selected (default 1).





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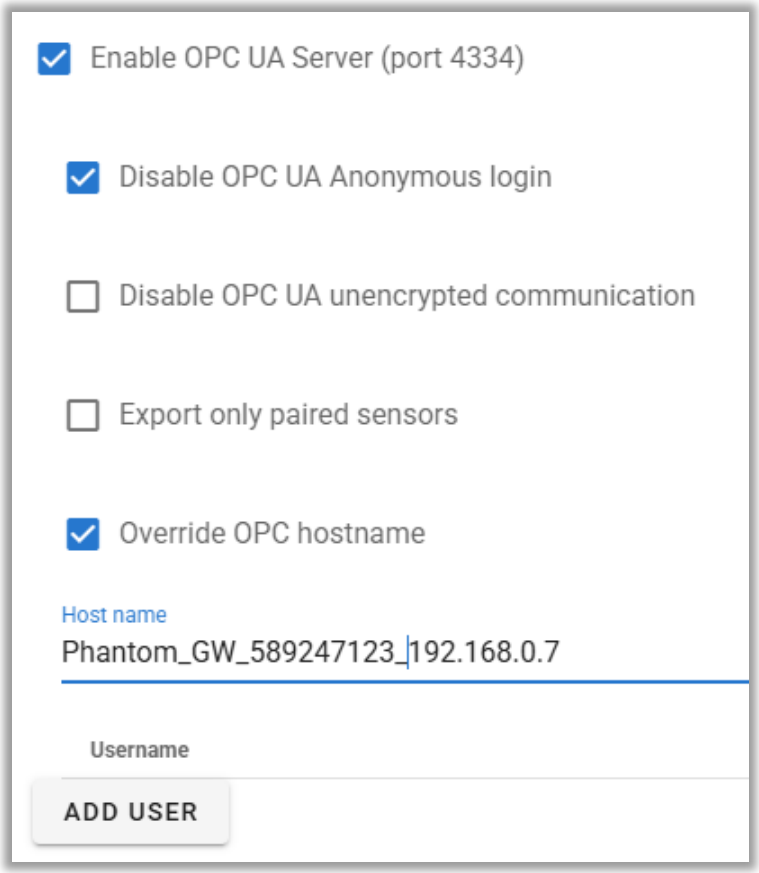
OPC UA Changes

1. The OPC UA feature now supports User logins instead of an Anonymous login. Multiple Users may now be administered for OPC UA access in the General Tab of the Config Menu.
2. Unencrypted communication can also be disabled.
3. The option to override the Gateway Host name is now available. Suggested alternate hostname is "PhantomGW-gwserialnumber" and the ip address of the gateway.
4. Expose friendlyName and isPaired in OPC UA.



Click **ADD USER** to administer OPC UA Users and passwords:

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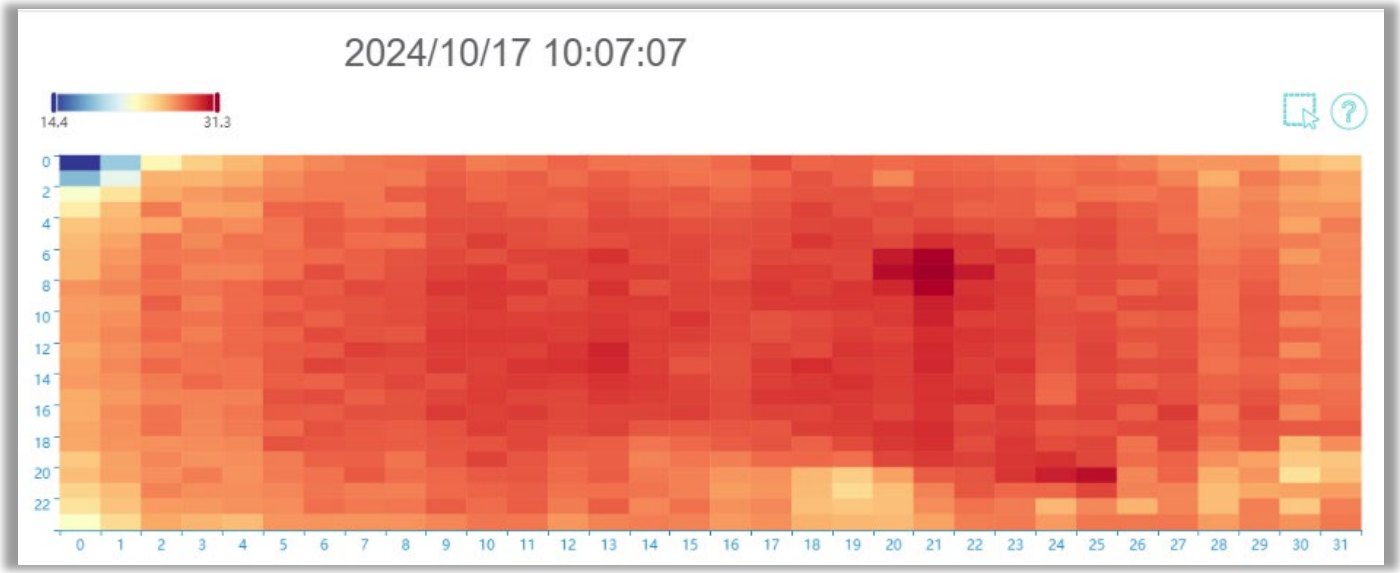
Send Thermal Image over MQTT

Currently, the RMS data, sensor status data and full time waveform data can be shared with MQTT brokers. Firmware 62 introduces the ability to also share thermal image data over MQTT. These files are generated by either an EPH-T20 or EPH-T70 Infrared Phantom camera. A nested array that contains the temperature values measured in Celsius for each pixel of the frame is sent. This example T70 camera capture shows the 24 by 32 pixel array :



The following is an abbreviated example of how the temperature data for each pixel is sent via MQTT:

{
"serialNumber": 189275207,
"gwSerial": 599245013,
"type": 10,
"dataType": "collection",
"data": [
[
[
22.15,
22.46,
22.68,
22.71,

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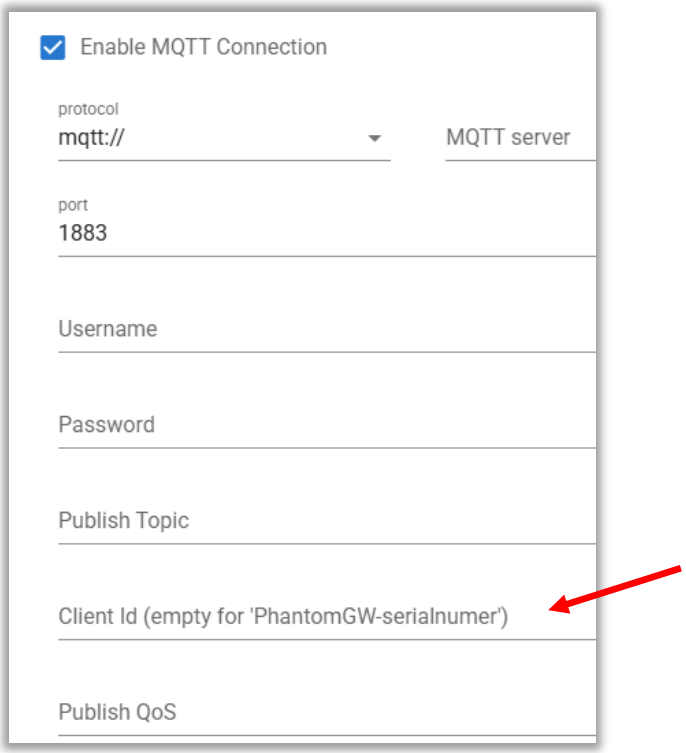
....
],
....
]
],
"columns": 24,
"rows": 32,
"frames": 1,
"frameRate": 1
}

Send Alarm Info to MQTT

Phantom Sensor RMS Velocity trigger status information is now available to be shared via MQTT protocol.

Administer Client ID for MQTT

The ability to change the Client ID has been added.



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