Operating & Safety Manual

Sentinel Guard 2.0

⚠ WARNING *These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using the machinery. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.*
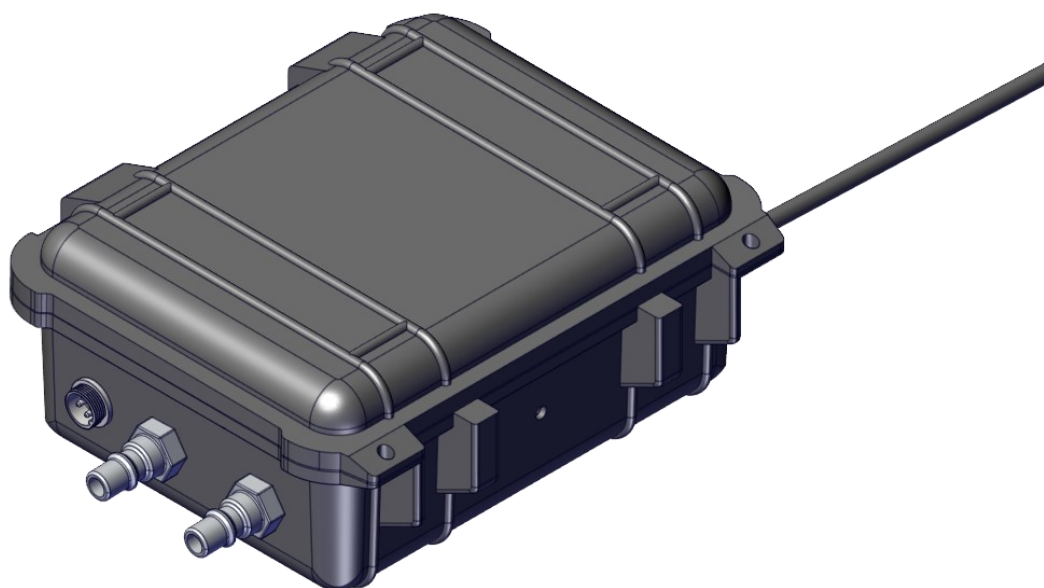
TABLE OF CONTENTS

To watch practical demonstration videos, or to download an electronic copy of these Instructions, please visit www.picotesolutions.com. Please note that videos are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

SAFETY INFORMATION

 WARNING *This section contains important safety information. Failure to comply could result in serious injury or death.*

Safety Symbols

Safety symbols are used throughout this manual to draw attention to potential hazards.

 Danger risk of serious injury, follow instructions.

Personal Protective Equipment (PPE)

Always use Personal Protective Equipment which is needed on a working site where the Sentinel Guard 2.0 is being deployed.

ENVIRONMENTAL

Operational Ambient Temperature Range:	-10...50 ^{o}C (14...122 ^{o}F) frost and condensation free
Storage Ambient Temperature Range:	-20...60 ^{o}C (-4...140 ^{o}F) frost and condensation free
Maximum Humidity:	95% non-condensing

TRANSPORT

Sentinel Guard 2.0should be transported in car or other vehicle secured so that any sudden movements caused by hard braking or accident are prevented. Always tranport Sentinel inside the vehicle.

STORAGE

Sentinel Guard 2.0 should be strored under cover in condensation frost free environment. It is recommended that Sentinel units are stored indoors protected from rain and sunlight and in and constant ambient temperature.

If Sentinel will be stored in colder environment than +10 ^{o}C (50 ^{o}F), the machine should be stood at room temperature for 24hours before use.

DISPOSAL

Sentinel Guard 2.0 can be disposed in Europe at Waste Electrical and Electronic Equipment (WEEE) collection points. Always follow the local waste handling rules and regulation.

GENERAL MACHINE SAFETY WARNING

⚠️WARNING *This section contains important safety information. Failure to comply could result in serious injury or death.*

Always read all safety warnings and instructions. Failure to follow warnings and instructions may result in electric shock, fire and/or serious injury.

SAFETY REQUIREMENTS

⚠️WARNING *This section contains important safety information. Failure to comply could result in serious injury or death.*

1. Always follow the instructions in the Picote Solutions manual.

2. **Before each use** inspect the Sentinel Guard 2.0 carefully for any potential break or damage. Change damaged sensors immediately.

3. When in use, it is very important that the Sentinel Guard 2.0 is stable and on an even surface at all times.

4. **Do not open the lid of the Sentinel Guard after the SIM card has been placed inside.**

5. If the working environment is extremely hot and humid, or badly polluted by conductive dust, use a GFCI-enabled power outlet to ensure the safety of the operator.

6. **Always check the internet connection quality prior to use the Sentinel Guard 2.0.**

7. Only use the Sentinel Guard 2.0 with the accessories and spare parts offered by Picote Solutions. Accessories and spare parts should only be used in the manner intended and as described by Picote Solutions.

GENERAL INFORMATION
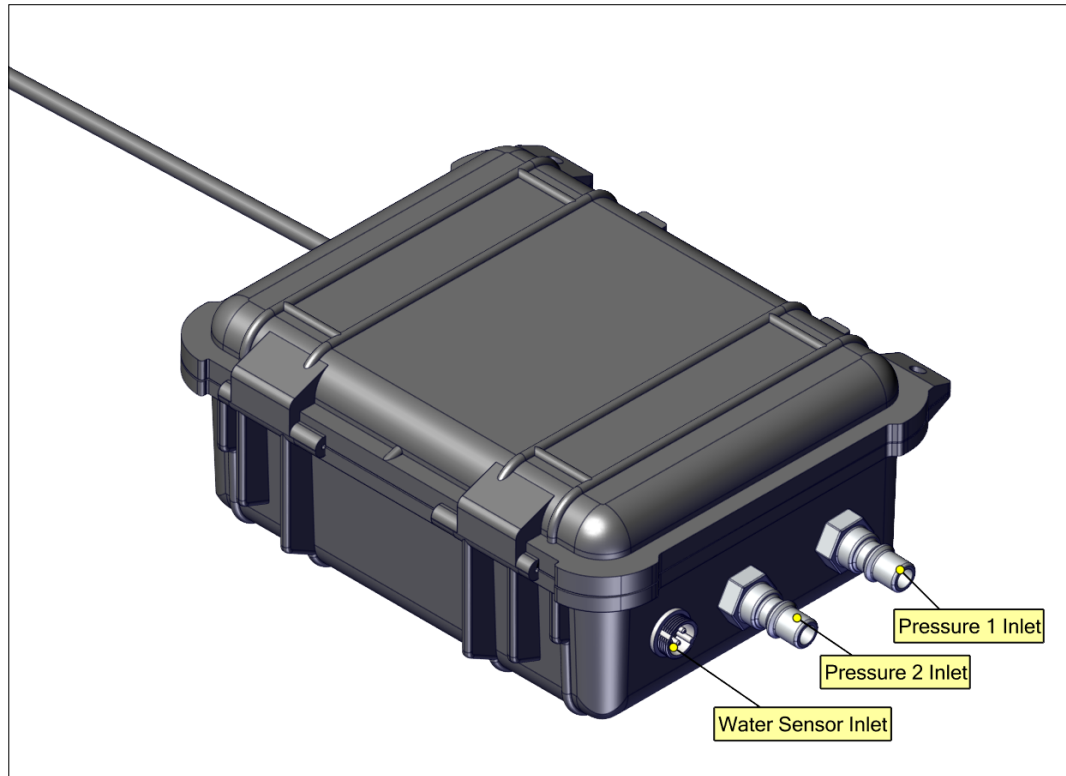
TECHNICAL DATA

Size (mm/inches)	Air Pressure connectors	Power Supply Monitoring	Weight (kg/lbs)	IP Rating
287x205x180 11"x8"x7"	2	110-230V / 50-60Hz 400V / 50-60Hz	5.8 / 12.8	67 sealed closed

INTENDED USE

This machine is intended for the following uses;

1. Monitoring pressure of the linings.

2. Monitoring power supply.

3. Monitoring water level in pumping stations.

4. Monitoring temperature.

Sentinel 2.0 has a built in remote alarm feature. This allows it to send an alert message to a mobile phone in cases of power outage, fluctuation of the pressure outside the limits or water level in a pumping station rise too high. The alerts will be sent by calling, text messages via the GSM network and email. User can also check the situation in working site in-time by logging on website https://phoenix.onos.fi.

VOLTAGE & POWER SUPPLY

Ensure that the supply voltage is correct. The voltage of the power source must match the value given on the name-plate of the machine within the tolerances of ±10 %. Machines with a 230V plate can be used in 220V mains and 110V machines in the 120V grid.

The machine has been double sealed according to European standards. The power source has to be grounded.

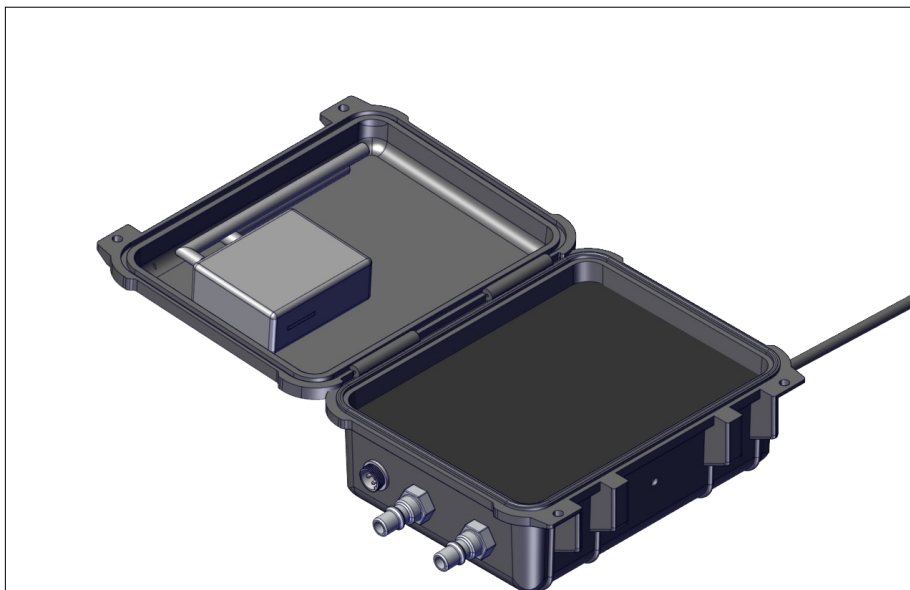To begin using the Sentinel 2.0 device, connect it to a mains power socket using the provided cable.

Always connect the power supply provided to the Sentinel 2.0 unit. The unit has a back-up battery as well, but it is only intended as a back-up for pressure measurement and to send alarm messages in the event of power failure, and is NOT a substitute for the mains power supply.

SIM CARD

Sentinel Guard uses a Mini sized SIM card. The SIM card slot is found under the lid. Once the SIM card has been inserted inside, the lid should be closed at all times. **Before inserting the SIM card into the Sentinel Guard 2.0, the PIN code lock must be turned off.** This can be done by inserting the SIM card into a mobile phone and turning the PIN code lock off.

It is recommended to use subscription based SIM cards and not prepaid SIM cards. Prepaid SIM cards might run out of credit or be closed down inconspicuously.

Step 1. Open Sentinel Guard 2.0 lid.

Step 2. Turn the SIM card PIN code lock off with your mobile phone.

NOTE! Sentinel Guard 2.0 uses **Mini sized SIM card**. Use adapter to make your SIM card larger if needed.

Step 3. Push the SIM card into the slot as shown below. Check that SIM card is properly locked into the slot. Close the lid and test that you can connect to your Sentinel Guard 2.0 unit in https://phoenix.onos.fi.
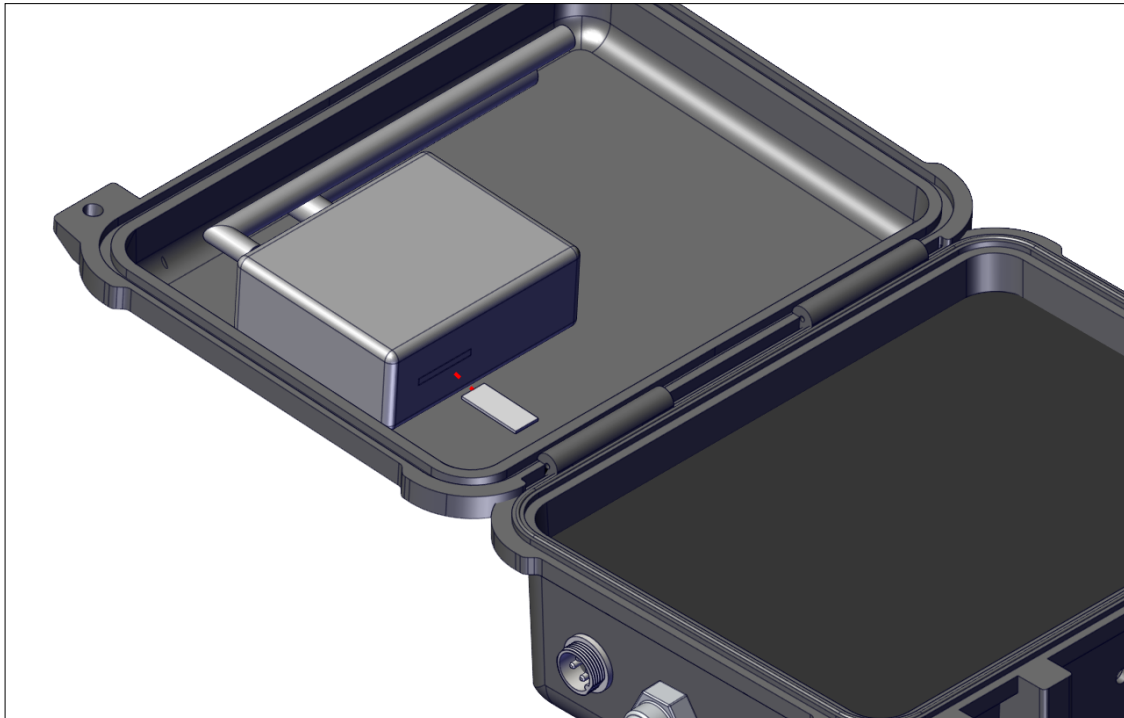
START UP

To begin using the Sentinel Guard 2.0 device, connect it to a mains power socket using the provided cable.

Always connect the power supply provided to the Sentinel Guard 2.0unit. The unit has a back-up battery as well, but it is only intended as a back-up for pressure measurement and to send alarm messages in the event of power failure, and is NOT a substitute for the mains power supply.

Sentinel Guard 2.0—Features

CONNECTORS

There are three different types of connectors in the Sentinel Guard 2.0 device: pressure, water, and power. The pressure connectors and water sensor connector are located on the left side of the Sentinel 2.0 unit. The power supply connector is located on the right side of Sentinel unit.
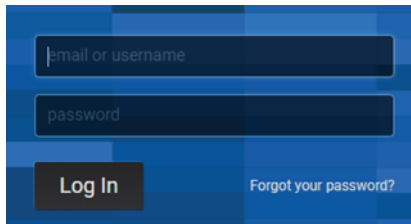
When connecting the power supply connector or the water sensor connector, push the connector to the socket, and screw the threaded nut all the way in. The power and water sensor connectors have a groove and cannot be connected if misaligned. The power and water sensor connectors have protective covers that are meant to be used when the connector is not in use.

LOGGIN INTO THE SENTINEL 2.0

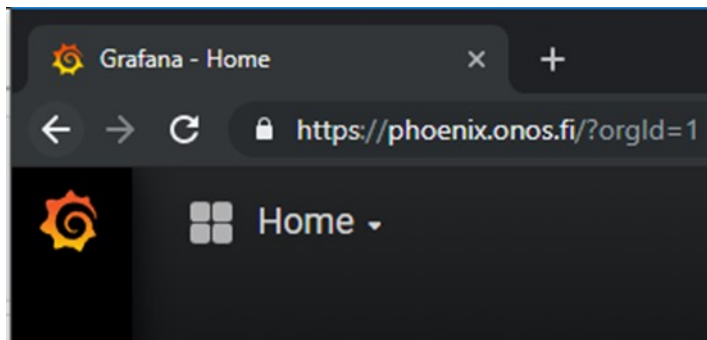   **STEP 1.** Open a web browser on your computer and go to https://phoenix.onos.fi

    STEP 2. Insert the username and password that were provided with the device.
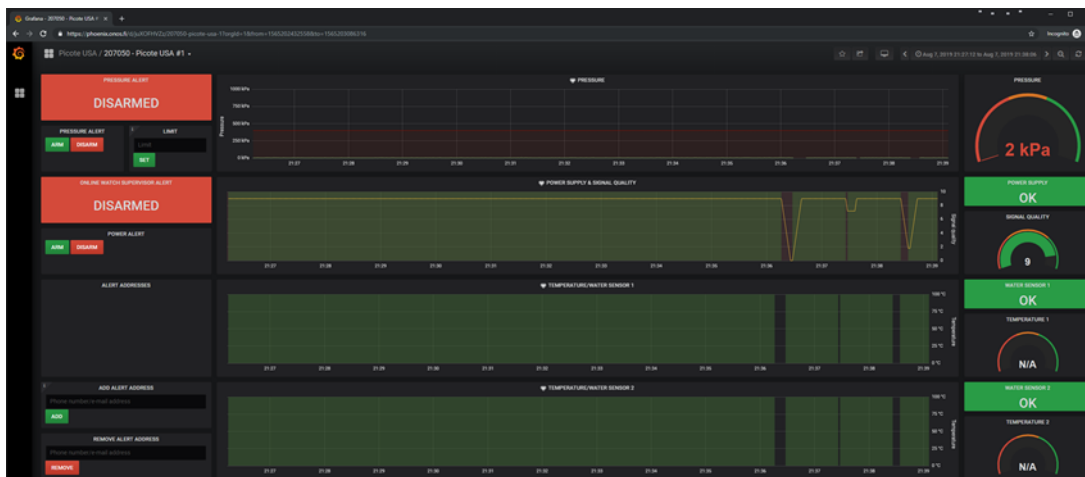

  STEP 3. Click on the Home button.

    STEP 4. Click on the Phoenix you want to control.
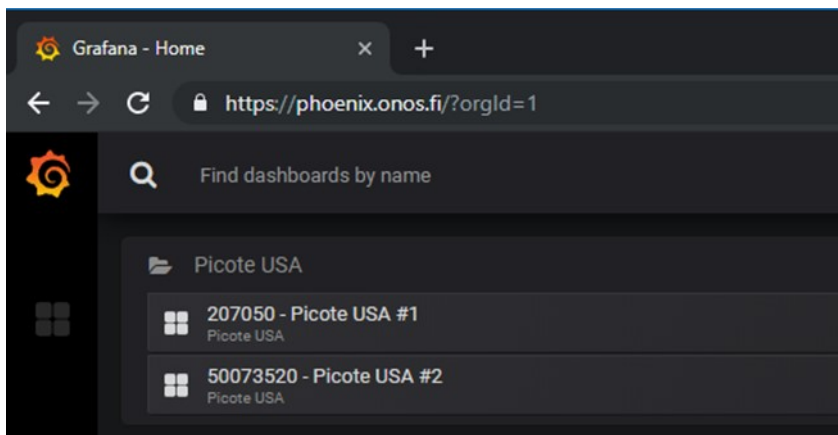
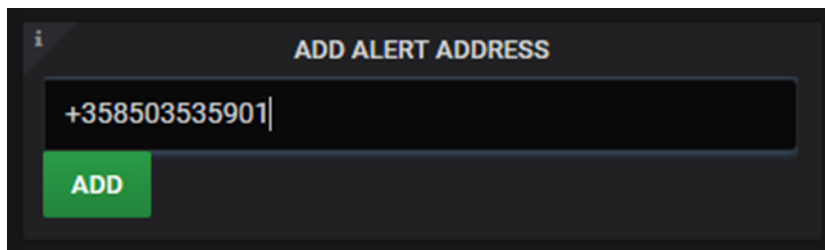   **STEP 5.** You will now see the main view of your Sentinel Guard 2.0.
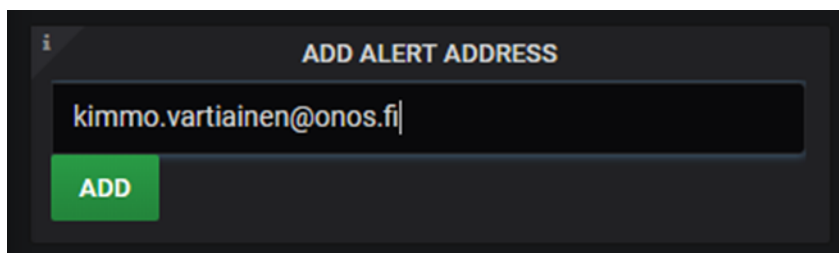
Adding an Alert Address

STEP 1. Log into your Sentinel Guard 2.0 as per section *Logging into the Phoenix.*

STEP 2. In the bottom left corner you will find a panel titled **ADD ALERT ADDRESS.**
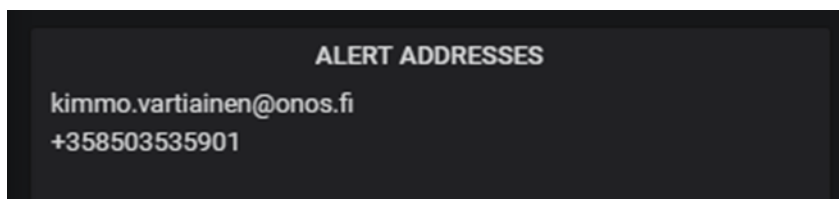
STEP 3. To add a phone number, insert the phone number **with the country code.**

STEP 4. After typing phone number, click ADD. To add an email address, insert the email address.

STEP 5. Verify that the alert addresses are now listed in the **ALERT ADDRESSES** panel above.
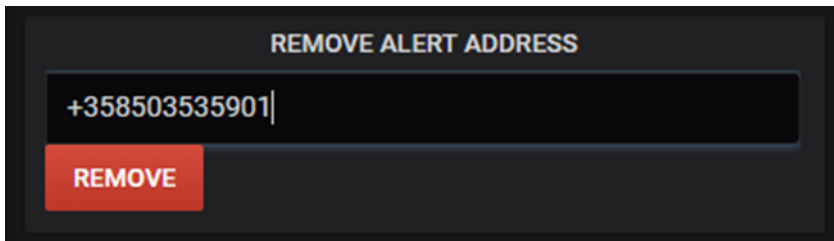
Removing an Alert Address

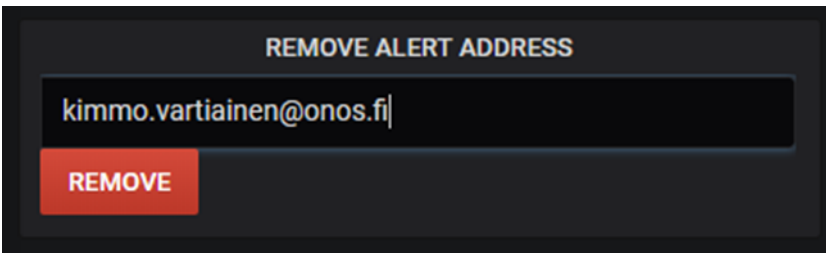**STEP 1.** Log into your Sentinel Guard 2.0 as per section *Logging into the Phoenix.*

STEP 2. In the bottom left corner you will find a panel titled **REMOVE ALERT ADDRESS.**

STEP 3. To remove a phone number, insert the phone number **with the country code.**
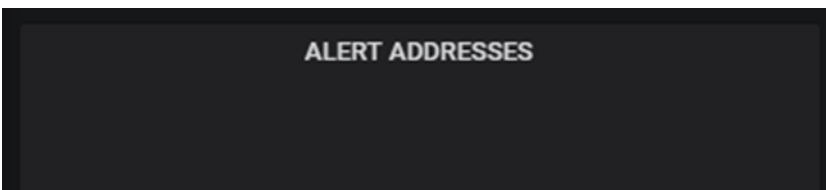

STEP 4. To remove an email address, insert the email address.

STEP 5. Verify that the alert address you removed is no longer listed in the **ALERT ADDRESSES** panel.

Enabling the Pressure Alert
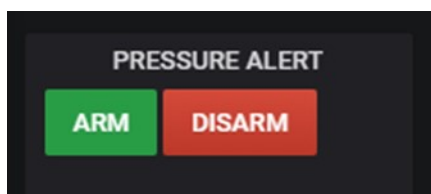
STEP 1. Log into your Sentinel Guard 2.0 as per section *Logging into the Phoenix.*
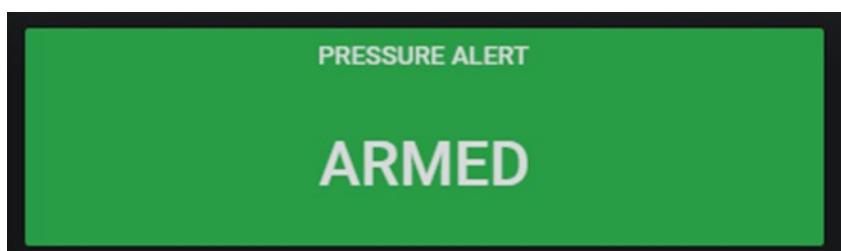
STEP 2. In the top left corner you will find a panel titled **PRESSURE ALERT.**

STEP 3. To enable the pressure alert, click on the **ARM** button.

STEP 4. To disable the pressure alert, click on the **DISARM** button.

STEP 5. Check that the status panel above shows the desired pressure alert status.


STEP 6. The pressure alert is fired if the pressure drops below the set limit after a 30 second delay.

Changing the Pressure Alert Limit

STEP 1. Log into your Sentinel Guard 2.0 as per section *Logging into the Phoenix.*

STEP 2. In the top left corner you will find a panel titled **LIMIT.**

STEP 3. Insert your desired pressure limit in **kPa**. Use pressure converter to change psi or bar values into kPa.
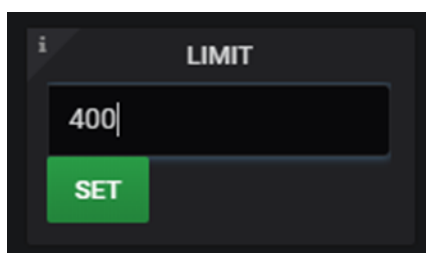
Most commonly used pressure value coefficients.

|		
1 bar	14.5 psi	100 kPa
1 psi	0.069 bar	6.89 kPa

STEP 4. Click on the **SET** button.

STEP 5. Check that the pressure limit has changed by looking at the **PRESSURE** panel on the right side. The active pressure limit is shown as a red line.
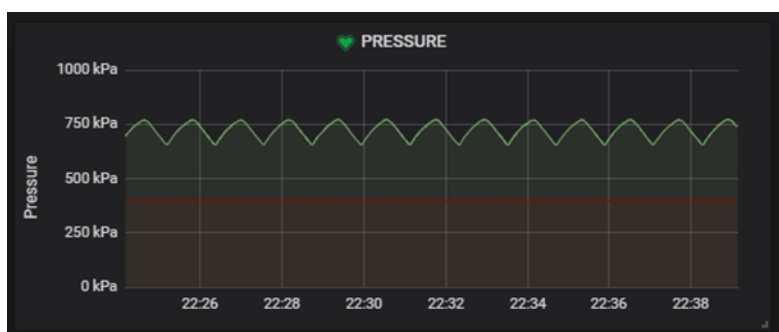
Enabling the Power Failure Alert

STEP 1. Log into your Sentinel Guard 2.0 as per section *Logging into the Phoenix.*
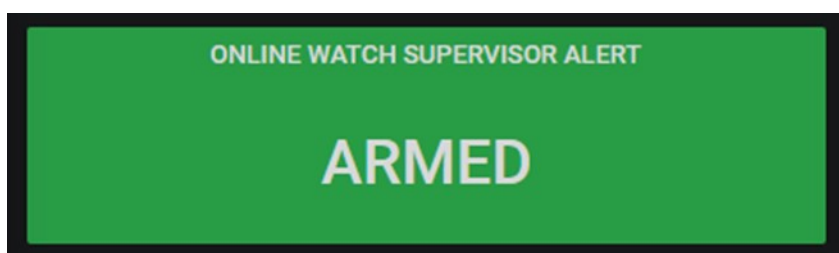
STEP 2. On the left side of the screen you will find a panel titled **POWER ALERT.**
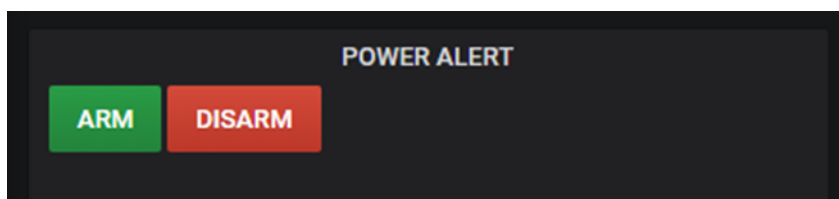
STEP 3. To enable the power alert, click on the **ARM** button.

STEP 4. To disable the power alert, click on the **DISARM** button.

STEP 5. Check that the desired status is shown on the status panel above.

STEP 6. The power failure alert is fired if the power failure alert is armed and either the power is lost or the 4G signal of the Phoenix is lost. There is a 3-minute delay in the power failure alert.
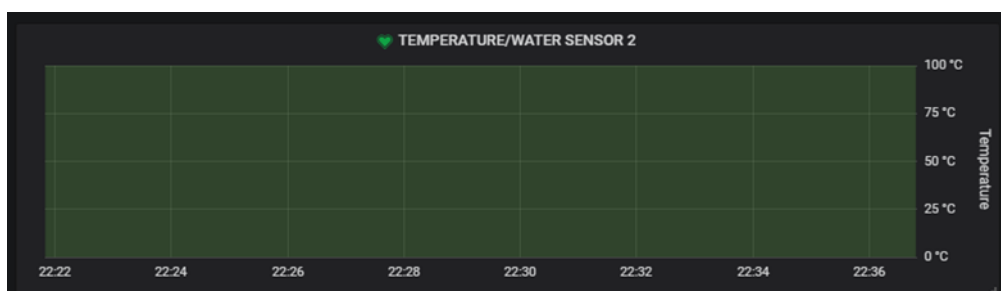
High Water Level Alert

STEP 1. Up to a hundred water level sensors can be connected to the Sentinel Guard 2.0.

STEP 2. The high water level alert is always enabled.

STEP 3. The alert will be fired if the water level sensor detects too high a water level.

STEP 4. The current status of the sensor can be seen on the **TEMPERATURE/WATER SENSOR** panels.

Temperature Monitoring

STEP 1. Two temperature sensors can be connected to the Sentinel Guard 2.0.

STEP 2. Currently there is no temperature based alarm, only monitoring.

STEP 3. The reading of the sensor(s) can be seen on the **TEMPERATURE/WATER SENSOR** panels.

Browsing History

STEP 1. Historical data can be browsed by clicking on the time frame on the upper right corner.

MAINTENANCE

⚠️**WARNING** 1. Before performing any maintenance always check that the machine is fully turned off and unplugged.

2. Carefully inspect the hoses and cables to ensure that there are no signs of wear and tear. Replace when required.

3. For safety and efficiency, always keep the Sentinel Guard 2.0 and associated cables and fittings clean.

4. Check the condition of the sensors. Replace broken and worn out sensors.

In case there is problem that you cannot solve using this manual, please consult Picote Solutions Oy Ltd.

ACCESSORIES & SPARE PARTS

⚠️**WARNING** You must use only the Picote Solutions accessories and attachments with the Sentinel Guard 2.0 described in this operations manual. If failed to comply, the machine may not work as intended. Note that the warranty of the product may also be violated.

6100000020	Sentinel Liner Guard 2.0 Type 1 EU
6100000021	Sentinel Liner Guard 2.0 Type 1 USA
6100000022	Sentinel Liner Guard 2.0 Type 1 UK
6100000023	Sentinel Liner Guard 2.0 Type 1 Australia
6100000102	Sentinel Water Level Sensor
6100000101	Sentinel Water Level Connector Block

WARRANTY POLICY AND PROCEDURE

Limited Warranty:

Picote warrants to the original End User that the Product purchased by such End User will operate in accordance with and substantially conform to their published specifications when shipped or otherwise delivered to the End User and for a period of one (1) year, except electric motors for which the warranty period shall be six (6) months, provided, however, that Picote does not warrant any claim or damage under this Warranty if such claim or damage results from:

1.   Consumable parts included the Products (such as brushes) or normal wear and tear resulting from use of the Products,

2.   Product overload or overheated motor,

3.   Regular periodic maintenance of Products,

4.   Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,

5.   Products that have been altered, modified, repaired, opened or tampered with by anyone other than Picote or an authorized Picote Service Centre, or unsuitable or unauthorized spare parts, accessories or third party products when using the Products or;

6.   the use of the Products not in compliance with their respective Documentation, user manuals, safety and maintenance instructions, and any usage restrictions contained therein, or

7.   accident, fire, power failure, power surge, or other hazard.

Otherwise, the Products are sold AS IS. End User is responsible for using the Products within their specifications and instructions as contained in the Documentation.

EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose.

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Finland. United Kingdom. USA.

Technical Support

support@picotesolutions.com

Claims

claims@picotesolutions.com

Production & R&D

Pienteollisuustie 24
06450 Porvoo, Finland
support@picotesolutions.com

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