

# AoFrio

INSTALLATION GUIDE

## Network Pro ONE New Build Installation Guide

Document # WT 9820\_i6

Issue date: June 2024



Section	Pages
Warnings	3-4
Introduction	5
What you need	6
Key steps	7
Plan where to place the Network Pro ONE within the cooler	8
Mount the Network Pro ONE	9-10
<ul style="list-style-type: none"> <li>Screw mounting</li> </ul>	10
<ul style="list-style-type: none"> <li>Tape mounting</li> </ul>	10
Connect to the power supply	11-14
<ul style="list-style-type: none"> <li>Power supply technical measurements</li> </ul>	12
<ul style="list-style-type: none"> <li>Connect the cables</li> </ul>	13
<ul style="list-style-type: none"> <li>Use the LEDs to confirm operation</li> </ul>	14
Configure Network Pro ONE and pair with the SCS Controller	15-25
<ul style="list-style-type: none"> <li>QR Code provides options for configuration timing</li> </ul>	16
<ul style="list-style-type: none"> <li>Option A: OTA Commissioning</li> </ul>	17
<ul style="list-style-type: none"> <li>Cradle app – before you start</li> </ul>	18
<ul style="list-style-type: none"> <li>Option B: Cradle app - Program Screen</li> </ul>	18
<ul style="list-style-type: none"> <li>Option C: Cradle app - Update Cooler Screen</li> </ul>	19
<ul style="list-style-type: none"> <li>Option D: Field app</li> </ul>	20
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Configure Network Pro ONE using Field app</li> </ul> </li> </ul>	21-22
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Configuration troubleshooting</li> </ul> </li> </ul>	23
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Test 1-1 pairing with Field app verification</li> </ul> </li> </ul>	24
<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Verification troubleshooting</li> </ul> </li> </ul>	25
Technical Specifications	26

Warnings	Important do's and don'ts
<p><b>Installation</b> The Network Pro ONE is mains electricity powered. Therefore it should only be installed in a suitable location within the cooler, and by an installer with appropriate qualifications in the country of installation.</p> <p>The Network Pro ONE must only be installed and configured by trained and authorized staff. Please follow the instructions provided in this Guide otherwise the warranty may be void.</p>	<ul style="list-style-type: none"> <li>• Only authorised and appropriately qualified staff should install the Network Pro ONE.</li> <li>• Mount the Network Pro ONE and the power connector in an environment that is not subject moisture or high humidity.</li> </ul>
<p><b>USB-C port</b> Do not connect anything to the USB-C port. The port is a non-standard USB-C and is only intended to be used by AoFrio during manufacturing. Connecting anything to this port may damage the product and void the product warranty.</p>	<ul style="list-style-type: none"> <li>• Do not connect anything to the USB-C port.</li> </ul>
<p><b>No serviceable parts</b> There are no serviceable parts inside the Network Pro ONE. Do not attempt to open the housing. Opening of the electronics housing, altering, or modifying the Network Pro ONE may invalidate the warranty and damage the device.</p>	<ul style="list-style-type: none"> <li>• There are no serviceable parts inside the Network Pro ONE.</li> <li>• Do not open the housing.</li> </ul>
<p><b>Fit for purpose</b> The Network Pro ONE must only be used for the purposes and functions described in this manual. While AoFrio may provide technical support on suitable applications and configurations of the Network Pro ONE (where such a relationship may exist), no liability, responsibility or risk is accepted in determining if the Network Pro ONE is fit for purpose for any particular application. No liability, responsibility or risk is accepted by AoFrio for the operational function of any particular installation or configuration.</p>	<ul style="list-style-type: none"> <li>• The Network Pro ONE must only be used for the purposes described in this manual.</li> </ul>
<p><b>Cellular connection, ownership, and activation</b> The Network Pro ONE requires a cellular connection, either LTE-M or 2G to set up and upload data to the Cloud.</p> <p>A cellular connection might not be available in all locations. The presence of LTE does not guarantee LTE-M signal being available. LTE-M is intended for low bandwidth Internet of Things (IoT) products where LTE is for mobile high bandwidth applications.</p> <p>Because this device is shipped in a non-active state, ownership is established as part of the setup process where AoFrio adds the device and owner to its database. Permission to manage pairing with other AoFrio hardware can be granted through User Roles within AoFrio's User Manager software.</p> <p>To use AoFrio's Field app as part of the configuration process, the Network Pro ONE feature needs to be activated for the database that you are working in.</p>	<ul style="list-style-type: none"> <li>• The Network Pro ONE requires a clear cellular connection</li> <li>• Each device needs to be registered with AoFrio as part of setup and activated to the correct database</li> <li>• Pairing requires additional user role permissions through User Manager.</li> </ul>
<p><b>Power supply</b></p> <ul style="list-style-type: none"> <li>• Installation should be done by a qualified technician.</li> <li>• Do not expose the power supply to water or moisture.</li> <li>• Do not use the power supply if it is damaged or if the cord is frayed.</li> <li>• Do not attempt to repair the power supply yourself. Contact a qualified technician if repairs are needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Only authorised and appropriately qualified staff should install the power supply</li> <li>• Mount the power supply in an environment that is not subject moisture or high humidity.</li> </ul>

Warnings	Important do's and don'ts
<p><b>Correct disposal</b> The Network Pro ONE is subject to EU Directive 2012/19/ EU (WEEE) for e-waste. It may also be subject to other national legislation for the safe disposal of e-waste.</p> <p>The Network Pro ONE must not be disposed of in municipal collections, it must be disposed of through an approved WEEE collection point. Alternatively, Network Pro ONE returned to an authorized AoFrio distributor at the end of its working life. Penalties may be applicable for incorrect disposal, as specified by national legislation.</p> <p>The device contains a lithium battery. This may be hazardous if incinerated or physically damaged. The circuit board may contain hazardous substances which could affect health and the environment if disposed of incorrectly.</p> <p>Once the device's battery is depleted, remove the device from equipment and dispose of it according to local requirements. Leaving Network Pro ONE installed in the equipment presents risks due the potential for battery housing corrosion leading to chemical leakage.</p>	<ul style="list-style-type: none"> <li>• The Network Pro ONE must not be disposed of in municipal collections; it must be disposed of through an approved e-waste collection point.</li> <li>• <b>Safety warning:</b> The Network Pro ONE devices contain a lithium battery. This may be hazardous if incinerated or physically damaged.</li> <li>• Do not leave an old Network Pro ONE installed in field equipment after it has reached its end of life.</li> </ul>
<p><b>Chemicals</b> The Network Pro ONE must not be exposed to any liquids, solvents, or chemicals, as this may damage the housing and lead to unsafe operation. Exposure to such chemicals invalidates the warranty.</p>	<ul style="list-style-type: none"> <li>• Do not expose to liquids.</li> <li>• Any installation should be adequately assessed by the customer to meet the applicable end product standards for Hydrocarbon refrigerant environments.</li> </ul>
<p><b>Temperature</b> The Network Pro ONE must not be subjected to temperatures outside its specified temperature limits.</p> <p>Exceeding these ranges in operation, installation, transportation, or storage, will invalidate the warranty and may damage electronic circuits and housing components, leading to premature failure.</p>	<ul style="list-style-type: none"> <li>• Do not expose to high or low temperatures.</li> </ul>
<p><b>Vibration and impact</b> The unit must be installed in such a way as to be protected from vibration and impact during operation. Exposure to impact and mechanical shock, either in operation, installation, transportation, or storage, may damage electronic circuits and housing components, leading to premature failure, and may cause the Network Pro ONE to become unsafe. Damage caused by impact is not covered by warranty.</p>	<ul style="list-style-type: none"> <li>• Do not drop or install the Network Pro ONE in locations with vibration.</li> <li>• Mount the Network Pro ONE and its power connector in an environment that is not subject to movement.</li> </ul>
<p><b>Continuous development</b> AoFrio undertakes to continuously develop and improve products and services. The design and specification of Network Pro ONE and contents of this manual are subject to change without notice. While every endeavour is made to ensure that all specifications and documents are current and complete, AoFrio accepts no liability, responsibility, or risk due to omissions or changes caused by continuous improvement and design changes.</p>	<ul style="list-style-type: none"> <li>• The design and specification of the Network Pro ONE is subject to change and new firmware may be released without notice.</li> </ul>

## Introduction

---

The **Network Pro ONE** is one of the communications devices in the AoFrio IoT ecosystem. It provides real-time automated one-to-one data acquisition from an AoFrio IoT device (SCS Controller, Monitor or Click) installed in an asset or equipment in the field, adding a cellular connectivity option to the existing portfolio of data acquisition solutions provided by AoFrio.

Connectivity over the cellular network eliminates the need for cooler owners to make site visits to acquire data from their cooler fleet. (NB. Throughout this manual we use “cooler” as the asset type and “SCS Controller” as the AoFrio IoT device.)



**Network Pro ONE** is equipped with 2 different types of radio connectivity:

- **Bluetooth** – The device is fully compatible with the AoFrio IoT system and uses Bluetooth to acquire data from the SCS Controller it is paired with.
- **Cellular connectivity** – A global cellular module provides connectivity using LTE Cat M1 with 2G fallback. Cellular SIMs are installed at the time of manufacture and the data plan is managed by AoFrio unless an alternative arrangement has been made.

### Battery

Each device has a rechargeable internal battery that is used for backup if the external power supply is removed. The battery life is approximately 12 hours during which time the Network Pro ONE will continue to operate fully as though still connected to its external power supply.

### Location Reporting

Wi-Fi positioning is used to help determine the location of the Network Pro ONE, and therefore the cooler it is installed into. NOTE: Network Pro ONE is not able to establish a Wi-Fi connection to transfer data.

## What you need

---

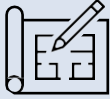






- AoFrio Network Pro ONE
- AoFrio AC to DC power supply
- Hardware (screws, cable ties, tape etc) to mount the Network Pro ONE and AC/DC power supply



## Key steps

---

These are the key steps when installing a Network Pro ONE in a new build. The order may change depending on the selected pairing option. For more detail see the section **Configure Network Pro ONE and pair with the SCS Controller**

	<b>Plan where to mount the Network Pro device within the cooler</b>
	<b>Pair the Network Pro ONE with the SCS Controller</b>
	<b>Mount the Network Pro ONE</b>
	<b>Connect to the power supply</b>
	<b>Pair the Network Pro ONE with the SCS Controller</b>
	<b>Use the LEDs to confirm operation</b>
	<b>(Optional) Test 1-1 pairing with Field app verification</b>

## Plan where to mount the Network Pro ONE within the cooler

---

While the mounting location can vary widely depending on the asset type (e.g., Open Deck cooler, Bottle cooler, Ice cream chest freezer), we would recommend the following:






- **Ensure the device will be in a position to successfully use Bluetooth** to pair with the SCS Controller housed inside the cooler.
- **Mount the device at or near the top of the cooler** to improve connection strength to a Cellular Network (LTE-M or 2G) for data upload to the Cloud. This is especially relevant when paired with an SCS Controller that may be mounted closer to the equipment's motor or compressor.
- **Identify a suitable AC connection point.** The Network Pro ONE should connect to a suitable point of the AC mains supply within the cooler. Ideally the Network Pro ONE will be no further than 2.5 meters from the AC connection point inside the cooler.












## Mount the Network Pro ONE

---

### Things to avoid

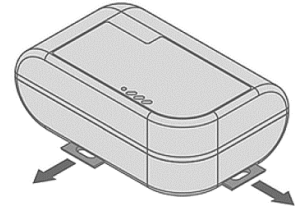
	<b>Avoid mounting the device where it is fully surrounded by metal surfaces</b> as this may prevent successful communications.
	<b>Avoid external mounting on the side or back of a cooler</b> where the device can be damaged during cooler movement.
	<b>Avoid mounting the device inside a cold or warm space</b> as this will impact the communications and device battery. The mounting location must be an area where the temperature is maintained between 0°C (32°F) and 40°C (104°F).
	<b>Avoid mounting in areas where there is a high risk of condensation or moisture.</b>
	<b>Avoid mounting the power supply at or near a heat source.</b> The power supply mounting location must be an area where the temperature is maintained between -10°C (14°F) and 40°C (104°F).

### Recommended actions

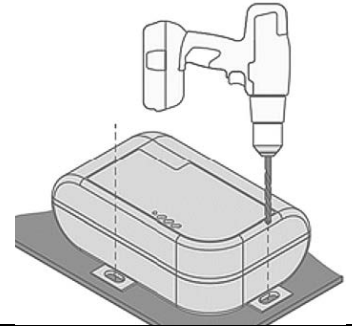
	<b>Mount the device inside the cabinet.</b> While mounting can vary depending on cooler type, in most situations we recommend that the Network Pro ONE is mounted inside the cabinet, but not in a place where it is fully enclosed by metal.
	<b>Mount the device behind plastic paneling or a grid</b> as these are less likely to interfere with communications.
	<b>Mount the device where it is out of sight from customers</b> to minimize the risk of theft or tampering.
	<b>Mount the device at or near the top of the cooler</b> to ensure the best connection strength to a Cellular Network (LTE-M or 2G) for data upload to the Cloud.
	<b>Use the supplied screws and/or the double-sided tape to ensure secure mounting</b> on metal or plastic surfaces. We also recommend that you use cable ties to secure the power cable in place.
	<b>Position the device to avoid debris and moisture ingress from above.</b> It doesn't matter if the device is horizontal or vertical, but the tail should be facing down or to the left, to avoid ingress through the USB-C port.
	If you plan to configure the device after you have completed the cooler build, make sure you <b>remove and store the additional supplied QR code sticker from the device separately</b> so you can scan it later.
	<b>Secure the power supply and power cables</b> using cable ties and/or double-sided tape to avoid damage during transport and operation of the cabinet.
	The power supply is supplied with open ends on the AC cable. We recommend that you <b>terminate the AC cable with an appropriate connector</b> to allow easy integration with the cabinet AC wiring.

## Screw mounting

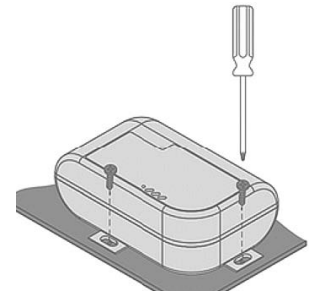
1. Pull out the screw mounting tabs from the bottom of the device.



2. Mark and drill pilot holes.



3. Using a screwdriver, tighten the two screws to secure the device to the surface.



## Tape mounting

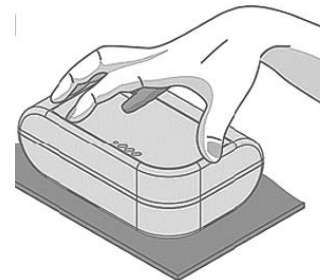
1. Ensure the mounting surface and the back of the device are clean and dry.



2. Stick the adhesive pad to the back of the device.



3. Firmly press the device into position, ensuring it is secured to the surface.



## Connect to the power supply

**WARNING:** Do not attempt to power **Network Pro ONE** using the USB-C connector, as it may permanently damage the device. The interface is not a standard USB-C.

The Network Pro ONE system is supplied with an AC to DC power adaptor which must be connected to a 100-240V AC, 50/60Hz power source. The power adaptor outputs 5V DC via the 3.5mm connector to power the Network Pro ONE device. Note that the Network Pro ONE will remain in a deep sleep mode until the power is connected. Once connected to power the device will turn on and also start charging its internal back up battery.



### Installation overview

1. Connect the AC wires to the AC distribution point using AC terminations as per local regulations.
2. Connect the output of the power supply to the Network Pro ONE and make other connections. (Refer to the pages that follow for more detail).
  - Before or after mounting, plug the 3.5mm connector from Network Pro ONE into the supplied cable. Check that the plug is inserted all the way in.
  - Wire the AC side of the power supply to the cooler mains using your preferred connectors. 100-240V AC, 50/60Hz.
  - (Optional) Secure the position of the device and cables with cable ties to avoid unplugging when the cooler is moved.
3. Ensure that the voltage and current requirements of the device are within the specifications of the power supply.

### Troubleshooting

If the power supply fails to operate, please check the following:

- Ensure that the power supply is connected to the AC outlet.
- Ensure that the output of the power supply is connected to the Network Pro and 3.5mm connector is fully inserted.
- Ensure that the voltage and current requirements of the device are within the specifications of the power



## Connect the cables

### Step

1. Before or after mounting, plug the 3.5mm connector from **Network Pro ONE** into the supplied cable.



2. Check that the plug is inserted all the way in.



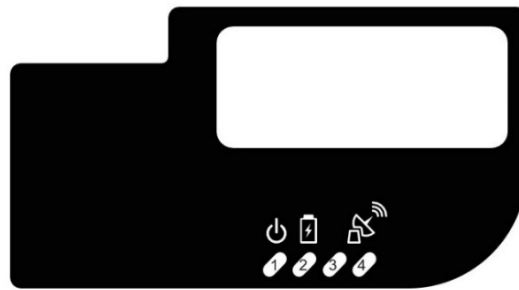
3. Wire the AC side of the power supply to the cooler mains using your preferred connectors. 100-240V AC, 50/60Hz

4. (Optional) Secure the position of the device and cables with cable ties to avoid unplugging when the cooler is moved.



## Use the LEDs to confirm operation

Network Pro ONE is equipped with 4 LEDs, numbered 1 through 4 from left to right with behaviour as described below. When you switch on mains power – you will be able to use these 4 LEDs to test power and cellular connections. Note that this step doesn't test the connection or association with the other device inside the cooler. If you are running the device from the battery alone, only LED 3 and 4 will be active.



LED	Purpose	Behaviour
LED 1	External power status	<ul style="list-style-type: none"> <li>ON = good input voltage (between 4.6V and 6.4V)</li> <li>OFF = no external power, or outside allowed range</li> </ul>
LED 2	Battery charging status	<ul style="list-style-type: none"> <li>ON = battery charging</li> <li>OFF = battery not charging</li> </ul> <p>The LED will slowly flash (5 seconds on, 1 second off) while the device is charging, and the battery level is not high enough yet to turn on the module.</p> <p>When the battery is fully charged the LED may turn off.</p>
LED 3	Cellular module power status	<ul style="list-style-type: none"> <li>ON = cellular module on</li> <li>OFF = cellular module off</li> </ul>
LED 4	Cellular network connectivity status	<p>Slow short flash - searching for cellular network</p> <p>Slow long flash - connected to a cellular network, idle</p> <p>Fast flash - connected to a cellular network, sending data</p>

## Troubleshooting with LEDs

Problem Observed	Possible Cause	Possible Solution
No LEDs are on	No power to the device	Check that the cooler power is on. Check that the 3.5mm plug is fully pushed into the jack. Swap the power supply.
LED 2 is not on, meaning that the battery is not charging	Battery might be fully charged	No issue. This is normal behaviour
LEDs 3 and 4 are off	The cellular module is not being powered - the Network Pro ONE may be in a low power state OR The battery has not charged enough to allow successful communications. This can take up to 10mins after powering the device.	Wait 10mins for the battery to charge if needed. LEDs 3 and 4 will show activity once the battery voltage is sufficiently charged.

## Configure Network Pro ONE and pair with the SCS Controller

### Choose your preferred set up option

There are a number of options for OEMs to configure and set up the association with an SCS Controller when installing a Network Pro ONE into a new cooler. Each OEM should review the options and select the one that best suits their manufacturing and supply process.

NOTE: Each of the options below provides AoFrio with information about which SCS is paired with which Network Pro ONE. This pairing information is required for the correct operation of the Network Pro ONE solution. If one of these methods is not used, then the solution will not work.

Option	Advantages	How it works
<b>Option A:</b> <b>OTA</b> <b>Commissioning</b>	<ul style="list-style-type: none"> <li>Best choice when building to stock AND when Bottler/Asset # not known at the time of manufacturing.</li> </ul>	<ul style="list-style-type: none"> <li>The OEM <b>must</b> provide AoFrio with a CSV file with the following information for each dispatched cooler:               <ul style="list-style-type: none"> <li>Bottler</li> <li>Cooler Serial</li> <li>Asset #</li> <li>SCS Controller Serial</li> <li>Network Pro ONE Serial</li> </ul> </li> <li>Once AoFrio receives this information, they will update the pairing in the Cloud.</li> </ul>
<b>Option B:</b> <b>Cradle app -</b> <b>Program</b> <b>Screen</b>	<ul style="list-style-type: none"> <li>Best choice when building for a specific customer order and the SCS Controller and Network Pro ONE are paired together before they are installed.</li> <li>No extra configuration step to add a Network Pro ONE</li> </ul>	<ul style="list-style-type: none"> <li>The SCS is paired with the Network Pro ONE over an Internet connection while in the production line/factory.</li> <li>OEM will need to know, at the time of production:               <ul style="list-style-type: none"> <li>Bottler</li> <li>Asset #</li> <li>Cooler Serial</li> </ul> </li> <li>Once scanned, the association between the SCS Controller and the Network Pro ONE will be sent to AoFrio's Cloud.</li> </ul>
<b>Option C:</b> <b>Cradle app -</b> <b>Update Cooler</b> <b>Screen</b>	<ul style="list-style-type: none"> <li>Best choice when the SCS Controller and Network Pro are fitted at different stages on the manufacturing line</li> <li>No need to power up the SCS to update with the pairing information</li> </ul>	<ul style="list-style-type: none"> <li>The SCS is paired with the Network Pro ONE over an Internet connection while in the production line/factory.</li> <li>OEM will need to know at the time of production:               <ul style="list-style-type: none"> <li>Bottler</li> <li>Asset #</li> <li>Cooler Serial</li> </ul> </li> <li>Once scanned, the association between the SCS Controller and the Network Pro ONE will be sent to AoFrio's Cloud.</li> </ul>
<b>Option D:</b> <b>Field app</b>	<ul style="list-style-type: none"> <li>Best choice when configuring a small quantity of units, or when either the Network Pro ONE or SCS Controller needs to be replaced and re-paired. Field app can also be used to test the operation of the system</li> </ul>	<ul style="list-style-type: none"> <li>OEM technician will need:               <ul style="list-style-type: none"> <li>Field app to set up the connection</li> <li>have correct permissions eg. Bottler access.</li> <li>power up the SCS Controller before connecting</li> </ul> </li> <li>Once scanned, the association between the SCS Controller and the Network Pro ONE will be sent to AoFrio's Cloud.</li> </ul>

Each of these options are detailed on the following pages. In the case of Cradle app or Field app, this installation manual explains the process of associating a Network Pro ONE with an SCS Controller assuming the user has previous knowledge on the use of the selected tool. Please refer to the following user manuals if required:

- Cradle app user manual
- Field app user manual

## QR Code provides options for configuration timing

If you mount the Network Pro ONE in a location that isn't easily accessible for later scanning of its QR code, AoFrio has supplied a duplicate QR code sticker which can be attached to a more accessible location on the outside of the cooler.





## Option A: OTA (Over-the-air) commissioning

---

In many instances an OEM might not know all the information required to make the system work properly until the time of dispatching a cooler to a bottler.

For this scenario AoFrio provides a way of configuring the pairing between the SCS Controller and the Network Pro ONE over-the-air.

**NOTE:** For this process to work the OEM **must** send AoFrio a CSV file with the following information for each cooler before it goes to the bottler.

Send AoFrio the following information for each cooler as a CSV file:

- Bottler name**
- Cooler Serial**
- Asset #**
- SCS Controller Serial AND the Network Pro ONE Serial that it is paired with**

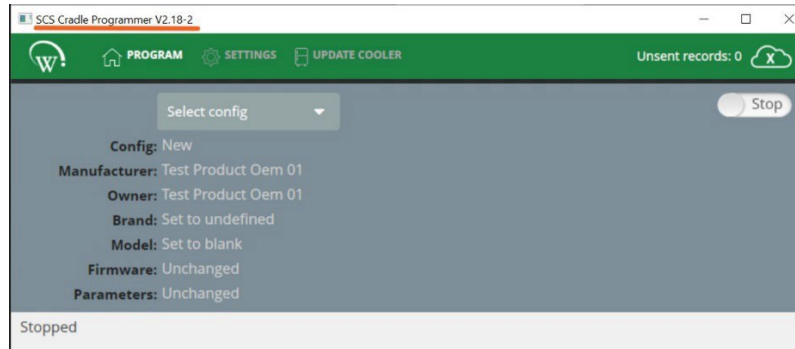
### What's next?

- The SCS Controller will still have to go through the Cradle process currently used by the OEM to upload firmware, parameter file and Cooler Serial #.
- If the Asset # is not provided the AoFrio cloud will set it to the SCS Controller Serial.

# Cradle app options

## Before you start

- Network Pro ONE features are available in version 2.18 or later of the Cradle app. Check the Cradle app version from the menu within the app and download the latest version if required.



- The Network Pro ONE does NOT need to be plugged in to proceed with configuration.
- Your computer needs an active Internet connection to perform this configuration.
- You will need a scanner that can read both barcodes and QR codes.

## Option B: Cradle app - Program Screen

The **Cradle app - Program Screen** provides the OEM with the opportunity to configure the Network Pro ONE and make the 1-to-1 pairing with the SCS Controller during the same configuration process already used for the SCS Controller.

Step	Detail
1 Go to the <b>Settings</b> screen and select an <b>Owner</b> from the dropdown under <b>Set IDs</b> .	
2 Select checkboxes for: <ul style="list-style-type: none"><li>• <b>Scan Serial</b></li><li>• <b>Scan Asset Number</b></li><li>• <b>Scan Network Pro</b></li></ul> and other optional values as required.	
3 While programming the SCS Controller, scan the QR code for the <b>Network Pro ONE serial #</b> (either on the device or the supplied sticker) into the corresponding field.	

Once all the values have been scanned, the association between the SCS Controller and the Network Pro ONE will be sent to AoFrio's Cloud. The Network Pro ONE is now ready to be installed into the same cooler as the SCS.

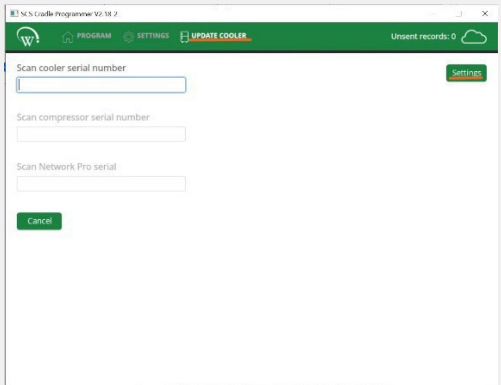
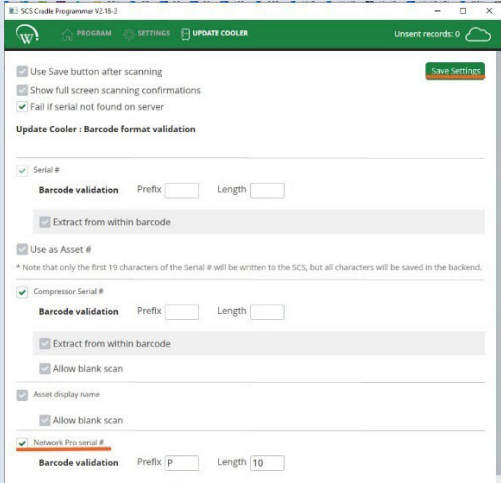
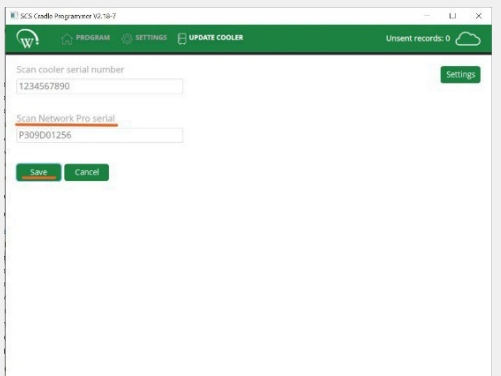
The Network Pro ONE will receive the association once it's activated and connected next time it's powered up.

## Option C: Cradle app - Update Cooler Screen

In some scenarios where the SCS Controller and Network Pro ONE are fitted at different stages on the manufacturing line, or the decision to add a Network Pro ONE to an asset might come at a later stage, the **Cradle app - Update Cooler Screen** can be used to configure the 1-to-1 pairing between the Network Pro ONE and the SCS Controller.

### Before starting

To use this method, the cooler Serial Number will have to have been written into the SCS Controller through the Cradle app at an earlier stage. Refer to the Cradle app manual for more detail.

Step	Details
1 Go to the <b>Update Cooler</b> screen and click <b>Settings</b> .	
2 Check the <b>Network Pro Serial #</b> checkbox and click <b>Save Settings</b> to confirm the changes.	
3 Go to the <b>Update Cooler</b> screen and scan the Serial number of the cooler you want to pair the Network Pro ONE with.  On the same screen, scan the Network Pro ONE serial number, then click <b>Save</b> to confirm the changes.	

Once all the values have been scanned, the association between the SCS Controller and the Network Pro ONE will be sent to AoFrio's Cloud.

The Network Pro ONE is now ready to be installed into the same cooler as the SCS.

The Network Pro ONE will receive the association once it's activated and connected next time it's powered up.

## Option D: Field app

### About Field app

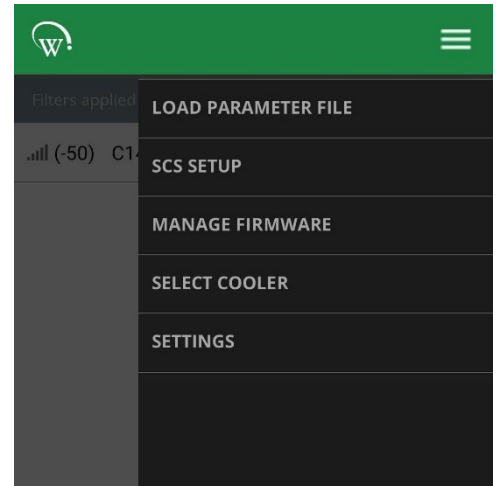
Although primarily intended for use at the field and not by the OEM, the Field app can also be used to configure the pairing between the Network Pro ONE and the SCS Controller.

To use Field app, you will need the correct access permissions assigned to your Role by AoFrio's support team in the AoFrio User Manager software. If your Role type does not include Network Pro ONE permissions, you will not have access to this feature.

The user will also require Bottler access level to be able to properly do the configuration.

### Before you start

- Network Pro ONE features are available in version 5.28 or later of the Field app. Check the Field app version from the menu within the app and download the latest version if required.
- Get the Network Pro ONE ready for installation. The Network Pro ONE does NOT need to be plugged in to proceed with the configuration.
- The SCS Controller you are planning to associate the Network Pro ONE with needs to be fully configured and powered. If you are installing a new SCS Controller, please refer to the SCS Controller manual first.
- Your mobile device needs an active Internet connection to perform this configuration.



### Download Field app

Use these QR codes to download AoFrio's Field app or visit the iOS store or Google Play to find the downloads.



Apple Store

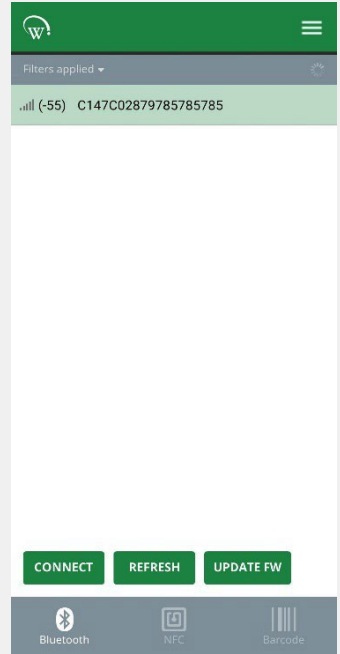
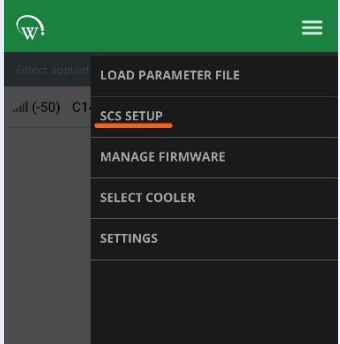


Google Play

## Configure Network Pro ONE using Field app

In this process we are pairing a Network Pro ONE with an SCS Controller already set up inside a bottle cooler.

**WARNING:** Power should not be applied to the Network Pro ONE until step #5.

Step	Details
<p>1. Select the SCS Controller to connect to from the list of visible devices. This list is filtered by your activation permission, so devices you are not authorized to connect to will not display</p> <p>Then select <b>CONNECT</b> to connect to the SCS Controller inside the cooler.</p>	
<p>2. Open the main menu then select <b>SCS SETUP</b></p>	
<p>3. Click EDIT in the relevant row to add details for the <b>ASSET #</b>, <b>COOLER MODEL</b>, and <b>MANUFACTURER SERIAL #</b>.</p> <p>NOTE: Leaving the <b>ASSET #</b> field empty means the device will not be tracked.</p>	

Continued...

4. Click **EDIT** in the row for **Network Pro ONE serial #**.

Either type in the Network Pro ONE serial number or scan the QR code by clicking **SCAN BARCODE**.

Click **SAVE** to complete the configuration.

If this process fails, refer to the section **Configuration Troubleshooting**.

You are ready to power up the Network Pro ONE. If it is already plugged in, unplug for at least 2 minutes, then plug again for it to download the latest configuration.

NOTE: To check that the Network Pro ONE is up and running at any stage, see section Test 1-1 pairing with Field app verification.

The screenshot displays the 'Details' screen of a mobile application. At the top, there is a navigation bar with icons for a Wi-Fi signal, home, a line graph, a warning triangle, and a menu. Below the navigation bar, the screen is divided into several sections:


- Test Product Bottler 02 ASSET #**: A row with a green checkmark, the value 'C147C02879', and an 'EDIT' button.
- COOLER MODEL**: A row with a green checkmark, the value 'RF7.UBR.2.GD', and an 'EDIT' button.
- MANUFACTURER SERIAL #**: A row with the value 'C147C02870' and an 'EDIT' button.
- Network Pro ONE serial #**: A row with an empty input field and an 'EDIT' button.

Below these rows are four large green buttons: 'INSTALL ADDRESS', 'ADDITIONAL DATA', 'PHOTO AND NOTES', and 'SET CLOCK'. Below the buttons is another navigation bar with the same icons as the top. Underneath this second navigation bar, there is a section for 'Network Pro ONE serial #' with an input field containing 'P309D00141', a 'SCAN BARCODE' button, and 'SAVE' and 'CANCEL' buttons at the bottom.

5. Apply power to the Network Pro ONE if you need to verify that the system is working.

If power had already been applied to the Network Pro ONE during configuration, unplug it from power for at least 2 minutes and then plug in again for it to receive the latest configuration from the cloud.

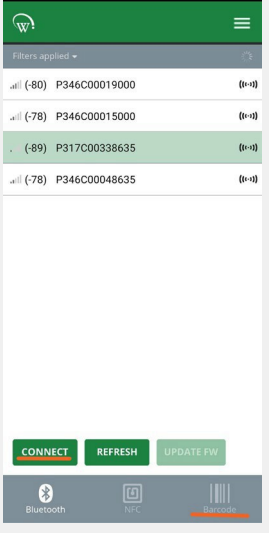
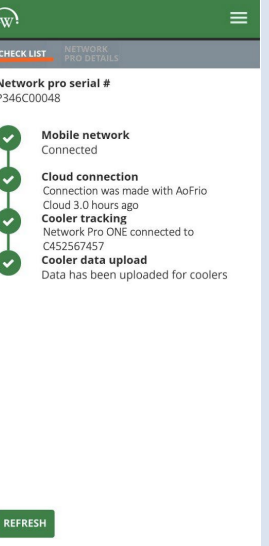

## Configuration troubleshooting

Problem	Possible Solution
<p><b>Internet Connection Required</b></p> <ul style="list-style-type: none"> <li>The mobile device being used to do the configuration requires an internet connection</li> </ul>	<p>Check the Internet connection on your mobile device</p>
<p><b>SCS Controller FW not supported</b></p> <ul style="list-style-type: none"> <li>This feature is only enabled for SCS controllers with FW version 4020 or later.</li> </ul>	<p>Update the SCS Controller firmware.</p>
<p><b>Network Pro's wrong SKU</b></p> <ul style="list-style-type: none"> <li>The Network Pro you are trying to associate is not a ONE, and therefore cannot be used in a 1-to-1 association.</li> </ul>	<p>Make sure the device is a Network Pro ONE by checking it has a "ONE" sticker.</p>  <p>If the device is a Network Pro ONE, contact AoFrio support.</p>
<p><b>Network Pro ONE already belongs to someone else</b></p> <ul style="list-style-type: none"> <li>The Network Pro ONE you are trying to associate has already been claimed to another bottler or company.</li> </ul>	<p>Contact AoFrio support.</p>
<p><b>Network Pro ONE already tracking.</b></p> <ul style="list-style-type: none"> <li>The Network Pro ONE appears to be tracking an SCS Controller already.</li> </ul>	<p>Click <b>OK</b> to proceed and override the association.</p>
<p><b>SCS Controller already being tracked</b></p> <ul style="list-style-type: none"> <li>The SCS Controller appears as its being tracked by another Network Pro ONE already</li> </ul>	<p>Click <b>OK</b> to proceed and override the association.</p>

## Test 1-1 pairing with Field app verification (Optional)








Where required the Field app can be used to verify that the Network Pro ONE is working and that the 1-to-1 association with the SCS Controller has been properly configured. However, if this verification step is required then we recommend that it is only performed on a sample basis as there is a dependency on SIM card activation, cellular network connectivity and a sufficient level of backup battery voltage of the Network Pro ONE, some of which may not be available immediately following the installation. AoFrio is developing an API to make this step faster.


**NOTE:** The Network Pro ONE will not start advertising or communicating over Bluetooth until it is activated. We recommend that you always configure the Network Pro ONE first and then plug it in while working on the mounting process to reduce this wait time.

Step	Detail
<p>1. To verify the Network Pro ONE with Field app, open Field app and either:</p> <p>Scan the QR code on the Network Pro ONE with your mobile device camera</p> <p>OR</p> <p>Select the Network Pro ONE from the list of available devices displayed on the Field app homepage and click <b>CONNECT</b>.</p>	 <p>The screenshot shows the Field app interface with a list of devices. The selected device is highlighted in green. The list includes:</p> <ul style="list-style-type: none"><li>Filters applied</li><li>(-80) P346C00019000 (0+0)</li><li>(-78) P346C00015000 (0+0)</li><li>(-89) P317C00338635 (0+0)</li><li>(-78) P346C00048635 (0+0)</li></ul> <p>Buttons at the bottom: CONNECT, REFRESH, UPDATE FW. Bottom navigation: Bluetooth, NFC, Barcode.</p>
<p>2. Click <b>REFRESH</b> button to retrieve the latest data from the AoFrio Cloud then read through the <b>CHECKLIST</b> screen to verify each function is operating as expected.</p> <ul style="list-style-type: none"><li>✔ a dark green check mark shows the function is operating as expected.</li><li>✔ a yellow check mark highlights a potential problem.</li><li>✘ a red cross shows that the function is not working, and installation is incomplete.</li></ul> <p>If all items are marked with a dark green check mark ✔ then the device is fully operational. For assistance with functions marked with a yellow check mark ✔ or a red cross ✘ refer to the section on <b>Verification troubleshooting</b>.</p>	 <p>The screenshot shows the CHECKLIST screen for Network Pro ONE P346C00048. The functions and their status are:</p> <ul style="list-style-type: none"><li>Mobile network: Connected (Dark green check mark)</li><li>Cloud connection: Connection was made with AoFrio Cloud 3.0 hours ago (Dark green check mark)</li><li>Cooler tracking: Network Pro ONE connected to C452567457 (Dark green check mark)</li><li>Cooler data upload: Data has been uploaded for coolers (Dark green check mark)</li></ul> <p>Buttons: REFRESH</p>
<p>3. To check cellular connectivity, click <b>NETWORK PRO DETAILS</b> and review the signal strength and the connection between AoFrio's Cloud and the Network Pro ONE.</p>	 <p>The screenshot shows the NETWORK PRO DETAILS screen for Network pro serial # P346C00019. It displays a signal strength indicator, a cloud connection icon, and a Cat-M1 cellular network icon. A QR code is also visible.</p> <p>Buttons: REFRESH</p>



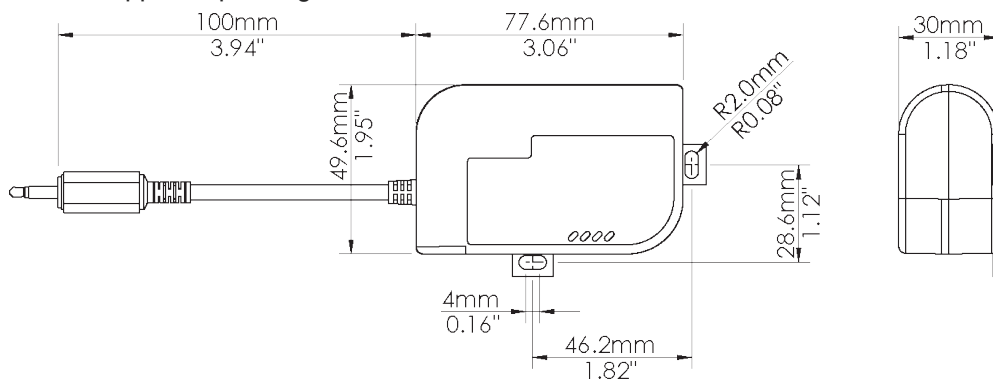
## Verification troubleshooting

Problem Observed	Possible Cause	Possible Solution
Can't see Network Pro ONE serial number in the list of devices in the Field app	<ol style="list-style-type: none"> <li>1. User role may not have access to the Network Pro ONE feature.</li> <li>2. Network Pro ONE hasn't been activated and therefore is not advertising over Bluetooth yet</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure the Network Pro ONE is powered. See section <b>Troubleshooting with LEDs</b> if required.</li> <li>2. The Network Pro ONE can take several minutes to activate. Please wait and try again.</li> <li>3. Contact Technical Support and request Network Pro ONE access in the Field app.</li> </ol>
 Red cross next to <b>Mobile Network</b>	The cellular account has not been activated. This may mean the mobile provider is not available in the area.	<ol style="list-style-type: none"> <li>1. See <b>Troubleshooting with LEDs</b> to check the cellular network status.</li> <li>2. Contact AoFrio support.</li> </ol>
 Yellow check mark next to <b>Mobile Network</b>	Network Pro ONE is in a location with poor cellular coverage	Move the Network Pro ONE to another location where it has a stronger signal reception
 Red cross next to <b>Cloud connection</b>	<p>Network Pro ONE has not been able to connect with the AoFrio cloud.</p> <p>It needs a connection to the mobile network. Check that the 'Mobile network' test shows a green check mark: </p>	Wait for a few seconds and click <b>REFRESH</b> .
 Red cross next to <b>Cooler Tracking</b>	If you see the message "Network Pro ONE has not been configured to connect to any cooler" this means that the pairing process has not completed.	<p>You may need to wait several days currently for this to update*. Click <b>REFRESH</b> and if the problem persists, try to configure the association again.</p> <p>*AoFrio is developing a solution to make this faster</p>
 Red cross next to <b>Cooler Tracking</b>	If you see the message "Network Pro ONE is not connected to any cooler. Network Pro ONE is assigned to track cooler XXXXX" this means that Bluetooth communications with the paired controller is not possible.	<ol style="list-style-type: none"> <li>1. Check that the SCS controller is powered.</li> <li>2. Move the Network Pro ONE to another location where it is closer to the SCS controller you want to pair it with.</li> <li>3. Wait for a few minutes and click <b>REFRESH</b></li> </ol>
 Red cross next to <b>Cooler Data Upload</b>	No cooler data has successfully been uploaded to the cloud.	Wait for a few minutes and click <b>REFRESH</b> .

Specifications	
AC/DC Power Adaptor	<ul style="list-style-type: none"> <li>Input 100-240V AC, 50/60Hz, 0.8A, 1m cable</li> <li>Output 5V DC 2.0A, 2m cable</li> </ul>
Network Pro ONE	<ul style="list-style-type: none"> <li>Input 4.5V – 6.4V DC, 300mA max</li> </ul>
Cellular communications	LTE Cat M1 with 2G (GPRS) fallback
Cellular bands	B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B28, B39
Connectivity	Bluetooth (BLE 4.1)
Wi-Fi (Geo-location only)	2.4GHz, 802.11 b/g/n
Battery	750mAh, 3.7V, Li-Po (approx. 12 hrs full product operation)
Status LEDs	1 x Power Status ; 1 x Battery Status. 2 x Cellular status
Connector/Interface	3.5mm 4 pole plug
Mounting method	2 x self-tapping screws or double-sided adhesive pad
Ingress protection	IP43
Operating temperature*	-20°C to +60°C (-4°F to 140°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)
Weight	Main unit: 63g (2.2oz) AC/DC Power adaptor: 188g (6.6oz)
Approvals†	

\* Backup battery charging only occurs between 0°C and 40°C

† NOM approval pending





## USA

**Jorge Civeira**

VP Commercial North America

P: +1 (847) 922 5098

E: [jorge.civeira@aofrio.com](mailto:jorge.civeira@aofrio.com)

## Mexico

**Sebastian Jaramillo**

Senior Customer Manager – Mexico

P: +52 1 427 112 9101

E: [sebastian.jaramillo@aofrio.com](mailto:sebastian.jaramillo@aofrio.com)

## Brazil

**Cheryl Camargo**

Regional Manager - South America

P: +55 47 3028 3858

E: [cheryl.camargo@aofrio.com](mailto:cheryl.camargo@aofrio.com)

## Europe

**Ali Karahasanoglu**

Sales Director - Europe / Eurasia

P: +90 (216) 420 12 02

E: [ali.k@aofrio.com](mailto:ali.k@aofrio.com)

## Asia Pacific

**St. John Vuetilovoni**

Commercial Director APAC

P: +64 9 477 4500

E: [stjohn.vuetilovoni@aofrio.com](mailto:stjohn.vuetilovoni@aofrio.com)

## Rest of World

**Postal Address:**

P.O. Box 302-533

North Harbour

Auckland 0751, New Zealand

E: [sales@aofrio.com](mailto:sales@aofrio.com)

# Network Pro ONE New Build Installation Guide

WT9820, issue 6, June 2024

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

