

User Guide

Danfoss Prosa telemetry solution
Type **PR-SC4K Direct**

Monitoring solution for food service



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1. Functions

The PR-SC4 solutions offer the customers a cost effective solution for monitoring temperatures remotely, receive alarms when temperatures are out of range, and to automatically datalog temperatures to comply with HACCP regulations.

2. Applications

Prosa PR-SC4 Direct functionality and how it works?

The Prosa Direct device can be used for retrofitting existing installations and for new installations that require temperature monitoring of up to 4 assets. It has 6 digital inputs that can be used to alert the user of gas detection, entrapment alarm, door switch or digital switch (user defined) for example plant alarm or plant fault.

This gives the flexibility to suit commercial installations.

3. Installation

This initial start guide is intended for Prosa SC4K Direct part no 300B4325 or old part number 300B4311.

The telemetry device should only be installed by operatives who are trained and competent to industry approved standards.

Note: It is the installers responsibility to check, adjust and confirm any application specific parameters and alarms.

Before downloading the app, please check that the smartphone you and the end user are using meets the following requirements. For example, android v5.0 or later iOS 11 or later. For installer in settings before installing enable bluetooth and app notifications when prompted. It will ask you to share your location for the Prosa telemetry device to establish the geolocation.

If you have never used the app before, you must create a new user account. The minimum requirements are 1. ProsaLink user name and 2. password. The user name which is case sensitive must be created with no spaces in between the first and second name for example "JohnSmith" If you ever forget either your "ProsaLink user name" or "Password" you can reset these by using the forgot user name/password function. Please remember to check the spam/junk folder. This process applies to both the end user (account owner/bill payer, and the installer).

If the end user is paying the telemetry subscription charge, then you must enter the end user credentials during initial set up, so please ensure you have them to hand before setting the device.

3.1 App download



<https://prosa.link/install>



Android V5.0 or later

iOS 11 or later



ProsaLink

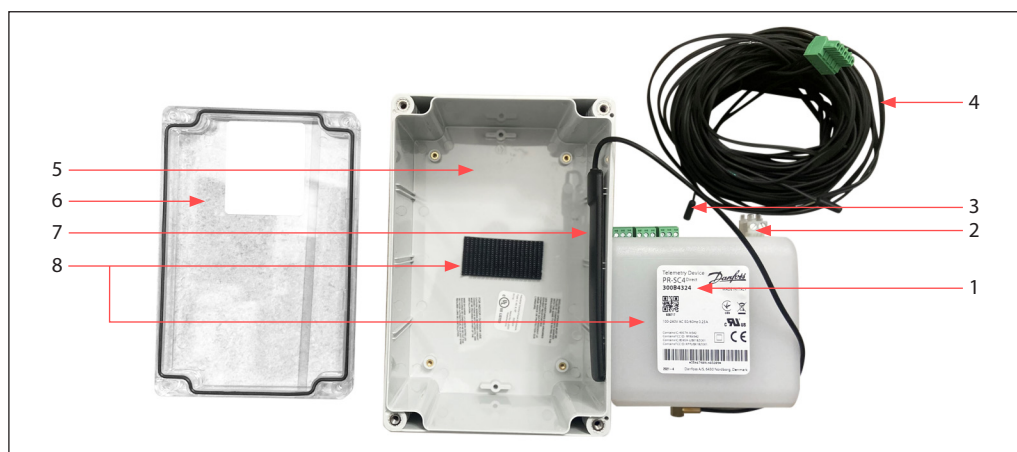
Service subscription charges to be paid by either the end user or the installer. During initial set up a free 1 month trial period can be selected and then the bill payer will be sent email notification to subscribe. The bill payer credentials must be entered during the initial set up of Prosa Direct.

3.2 Items within the ProsaLink kit (cable glands are excluded from the kit)

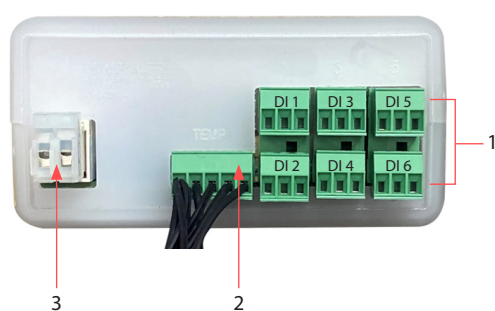
1. Prosa Direct device
2. 230 V power supply connector (white)
3. 6 Digital inputs connectors (green)
4. 4 NTC 10K probes 2.5 m long and green connector
5. Protection box
6. Protection box lid gasket and screws (supplied loose)
Gasket must be installed to maintain IP
7. Antenna
8. 2 Pieces self adhesive velcro
9. Paper instructions (omitted from picture)

The temperature probes can be extended up to 30 m with minimum 0.5 mm cable. Please ensure accuracy is checked after installation with a third-party thermometer. If calibration is required the sensor value can be adjusted on the app by accessing the "Tools" → "Temperature sensor calibration" this will take you to the "Temperature sensor calibration page" the sensor off set can be adjusted on this page and saved.

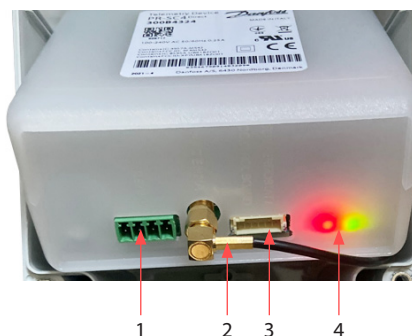
From item 8, 1 piece is to be stuck to the bottom of the Prosa device and 1 piece is stuck to the bottom of the protection box. This is to secure the Prosa device to the bottom of the junction box. If you need access the side of the device it can be removed from the velcro by pulling the hardware gently towards you.



3.3 Connector location and what do they do?



1. 6 digital inputs for door switch, anti panic (entrapment alarm) gas detection, digital switch which can be named to suit the application for example plant or condensing unit alarm. Can be configured on the app N/O or N/C.
Note: The digital inputs switch is a 5 V DC output from the Prosa device, so do not apply voltage or the device will be destroyed immediately!
2. 4 temperature probes connection (green)
3. 230 V 50 Hz power supply connection (white)



1. Not used on Prosa Direct – Side B is marked on the app as not used.
2. Antenna
3. Not used on Prosa Direct – Side B is marked on the app as not used.
4. Red and Green status

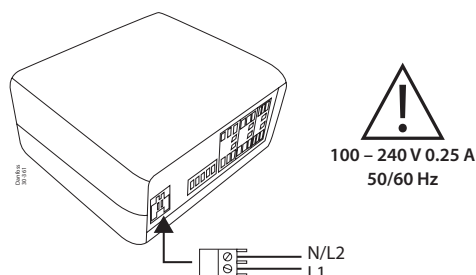
3.4 Assembled Prosa Direct in protection box

QR code for scanning on ProsaLink app



3.5 Power cable

The ProsaLink kit wiring is to be carried out by the installer with 230 V isolated off from the power supply. Connect 230 V fused power supply to white connector plug into the Prosa marked power supply.



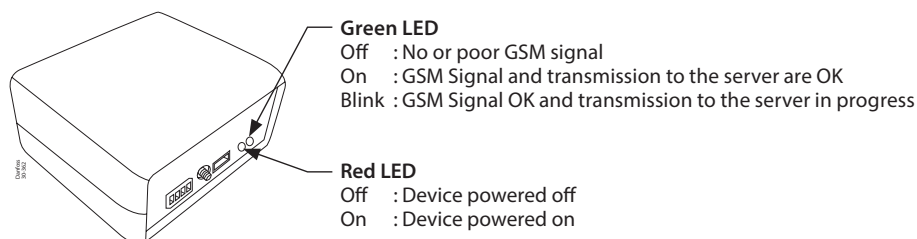
3.6 Installation process

- Complete all field probe and power wiring, and connect the antenna into the antenna socket
- Switch on the power to the prosa direct
- Observe the Red and Green LED status and refer to figure below

When you initially switch on the device the red led will blink and then turn solid red indicating that the 230 V power is connected, then the green led should be solid within 5 min. If the green LED is not lit after 30 min it is possible that the signal is not strong enough where the device is located. So either relocate the device or purchase an extended antenna and route this to outside of the building or area. The device signal strength can be viewed during the initial set-up in live data or cloud data as explained below. The extended antenna is for extreme cases only.

Red flag: if the signal strength is more than -93 dbm (barely acceptable) to -105 dbm (insufficient for the device to transmit) the lower the number the better the signal.

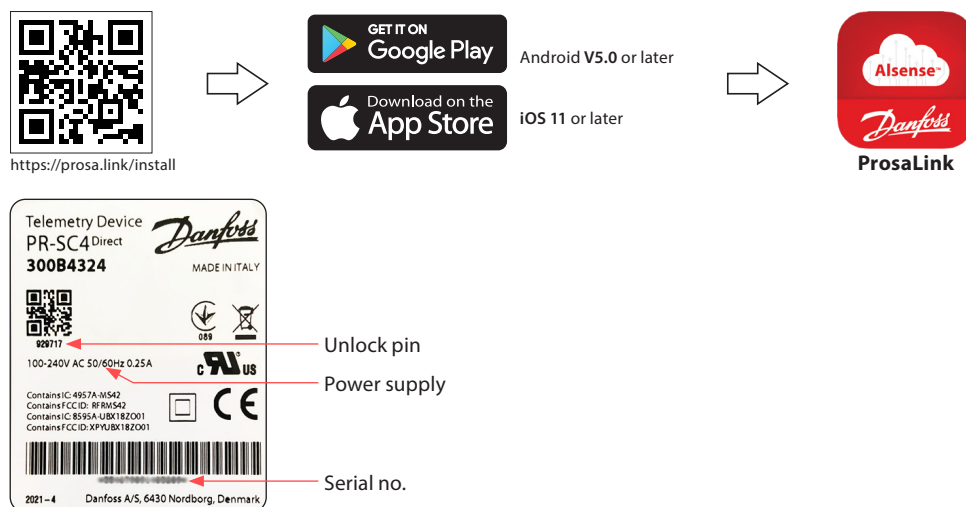
An example of an extended antenna: [Covvy antenna extension cable](#)



- On the Prosa device, observe the Red and Green LED located next to the antenna connection when they are both solid it is ready to associate with your smartphone.

4. Configuration

Before downloading the app, please check that the smartphone you and the end user are using meets the following requirements. For example, Android v5.0 or later iOS 11 or later. For the installer, in settings enable bluetooth and app notifications if prompted. It will ask you to share your location for the telemetry device to establish the geolocation.



Download the **ProsaLink** App from Google Play or App Store (if you are a new user create a ProsaLink user name and password):

1. The wiring to the Prosa Direct is to be completed before attempting to associate the telemetry device.
2. Connect the antenna to the antenna connection.
3. Connect 230 V 50 Hz fused power supply to the Prosa Direct and wait for the red and green LED to be solid as described in section 3.6 on page 4.
4. **Open App** and select **"Add new device"** which will automatically open the phone's camera.
5. **Scan QR code** on the Prosa device, the **serial number** and **unlock pin** will upload into your smartphone. In the unlikely event of the smartphone, camera will not scan the QR code, enter the 15-digit device **"serial no"** (under the bar code) and the **"unlock code"** which is located under the QR code on the device manually.
6. Press **"Confirm"** on the app screen.
7. **"Establish a device connection"** blue tooth connection established and firmware up to date should be automatically ticked. If this does not automatically tick leave the app open until it completes the process.
8. Press **"next"** and the **"telemetry mobile network status"** page, the device signal strength and number of bars represents how strong the signal is to the cloud. "Registered to 2G" and "Prosa cloud connection state" will be ticked automatically.
9. Press **"next"**.
10. The device and its location you have just scanned will be on the menu screen **"search destination site"**.
11. Press the name of the device you have just scanned or add new site if it is a new device, **"Site details page"** select the **"Type"** which is where the asset is installed e.g., café, bakery, canteen etc. Enter **"Name"** for example Joe Smith restaurant, in other information enter your email address and telephone number, then **"Save"**.
12. The next screen will be the **"Contacts and sensors configuration"** page SIDE A and SIDE B (NOT USED). **"SIDE A"** is the sensor (probe) configuration.
13. On this screen you are setting the name of where the sensors are located, alarm and HACCP threshold. Press **t1** = press **"configure"** **"Peripheral installation"** page **"monitoring device type"** temperature probe, positioned in **"Add equipment"** and add the name, the item and type of equipment, for example Cold Room, Single Door, Display cabinet, choose where the sensor is positioned, and what the probe is monitoring, choose from the menu what the sensor is monitoring, for example **"Internal Temperature"** or **"Evaporator Temperature"** or you can choose **"Add custom diagnostic"** where you can **"Insert a custom parameter name"**.

On the same screen you can set the “HACCP” food type and threshold. Either use the default values or define the temperatures that are required, these can be adjusted after initial set up if required, by connecting to the cloud data. Press save to save the settings.

Note: For the HACCP data logging data to be visible, you must set the temperature sensor in device configuration to be monitoring “Internal or air temperature” tools → device configuration → contacts and sensors configuration → side a t1,t2,t3,t4 → edit what the sensor is set to monitor using the drop down menu and save. If the temperature sensor configuration is set to be monitoring “ambient temperature” or condenser temperature, HACCP will not be visible.

Note: HACCP data is for temperature monitoring and data logging only and does not have any effect on the temperature alarm. The next screen shown will be the “Alarm configuration” choose if you want to enable the alarms on t1, if yes, turn alarms on and set the minimum and maximum temperature and the delay time in mins it takes to activate an alarm and press “Next”.

You can then carry out the same process for t2, t3 and t4 temperature probes and press “Next” the settings can be adjusted after initial set up if required.

The next screen will be “Who will pay for the telemetry service subscription” if you are setting up the device for an end user, the details must be entered during initial set up, for the end user select “Somebody else” and then enter the email address. If the end user is new to the Prosa system, they will be sent an email with a temporary username and password, once the end user has accessed the ProsaLink app and signed in, the personal information can be changed in the “My account” section on the app. If the end user is managing the account, the end user/Account Owner should be set up as “Admin” privileges.

If the Digital Inputs are hard wired, door switch etc, the configuration can be set on the same page “Contacts and sensors configuration”.

4.1 Connecting the hard wired digital inputs 0 V

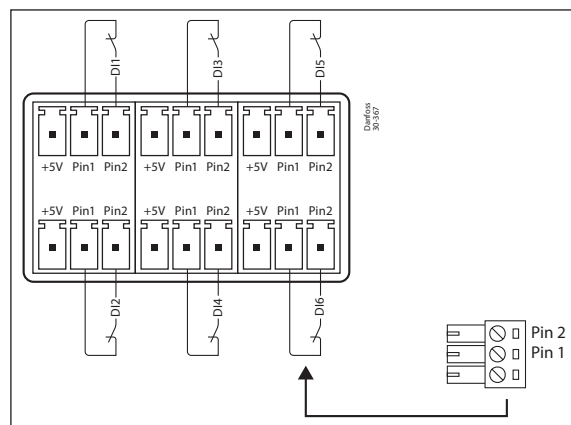
Note: It is important that no voltage is applied to the digital inputs. The device will be destroyed immediately if voltage is applied to the digital inputs.

The digital input configuration can be viewed, adjusted and configured within the app “device configuration” section. On smartphone dashboard → Select the asset → “Tools” → Device configuration → “Establish device connection page” → Next → “Telemetry mobile network status” → Next → “Contacts and sensors configuration” → “Side A” → Select i1-6 and associate by pressing the pencil symbol, and choosing what the di is monitoring and where it is positioned. If you choose the “monitoring device type” the user can not only define what area or cold room for example the di is connected too, but the user can define the text under what the di is monitoring. An example of a user defined “digital switch” alias is a “Plant Alarm” or “Condensing Unit Fault” on “Ice Cream Freezer” the digital inputs can be defined on the drop down menu as either:

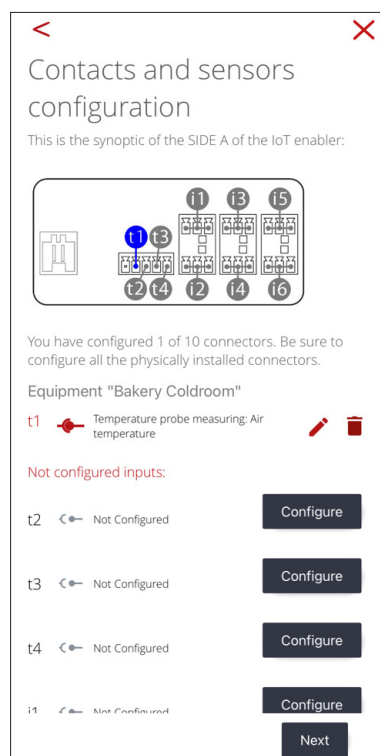
1. Digital Switch
2. Anti panic switch
3. Gas Detector
4. Door switch

Digital switch option can be a user defined alias. When the digital inputs are configured they will be shown on the app dashboard under the HACCP data. The digital inputs can be added or deleted as required.

The image below shows the digital input wiring configuration:



4.2 App view of contacts and sensor configuration during initial set-up



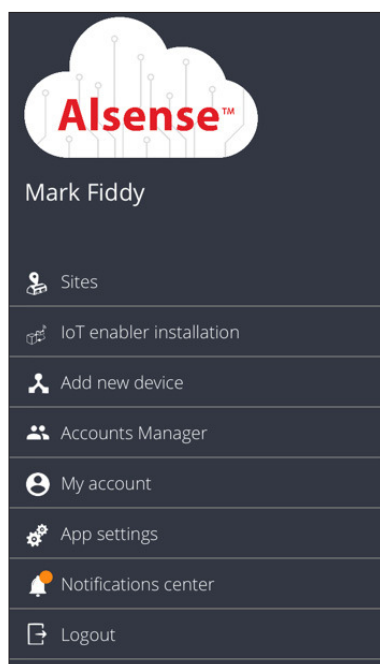
Temperature data will start to be logged on the app (data from cloud) after approximately 30 – 45 mins of setting up) **“Live Data”** is when you are standing next to the equipment and connected to the device by Bluetooth, when you are standing near the equipment the default view is Bluetooth, if you wish to change from **“Live Data Bluetooth”** to **“Data from Cloud”** use the icon at the top of the screen. Live data is instant data from the device probes.

Once configured, HACCP tabular data will not be generated until the temperature has been logging for over 1 hour.

1. If you ever move the telemetry device location, you need go to **“Tools”** widget and 1. Disconnect equipment 2. Delete equipment before you move it.
2. On App Dashboard → My Account → Notifications → Check Enable/Disable Notifications → App Notifications + Enable Email Notifications. Push notifications are on as default, but please check to ensure your needs are met. If you want to receive push notifications, for iOS phones you must leave the app open (running in the background), while this is not necessary for the Android phones
3. If near the device it will default to **“Live Data”**, this is actual real time data generated by the sensors and switches, to check the **“Data from cloud”** this will start to appear on the app on your smartphone in 30 – 45 mins from initial start-up.
4. Once the initial set up is complete, it is good practice to generate a false alarm by temporarily adjusting the alarm configuration outside the operating temperature, and confirming that the alarms have been activated, and notifications have been received.

Will Prosa send an alarm if the device loses it power? = YES, If the device cannot transmit data or the power has been switched off for 45 – 60 mins a **“no sign of life”** alarm will be sent by pop up push message and email notification if the notifications are enabled in **“My Account → Notifications”** you can select if you would like to enable or disable **“app notifications”** or enable or disable **“E-Mail alarm notifications”**.

4.3 ProsaLink app dashboard



Sites: are the list of assets or coldrooms associated with your account.

IoT enabler installation: you see all the devices around you visible by bluetooth. Associated and not associated. If you want to see only the not associated ones you can use the switch on the screen. Associated means that the setup is completed and configured in the system.

Add new device: to add a new prosa device.

Accounts Manager: for giving permission and access to additional users to the site data. This will be the "account owner" / bill payers' privilege for security.

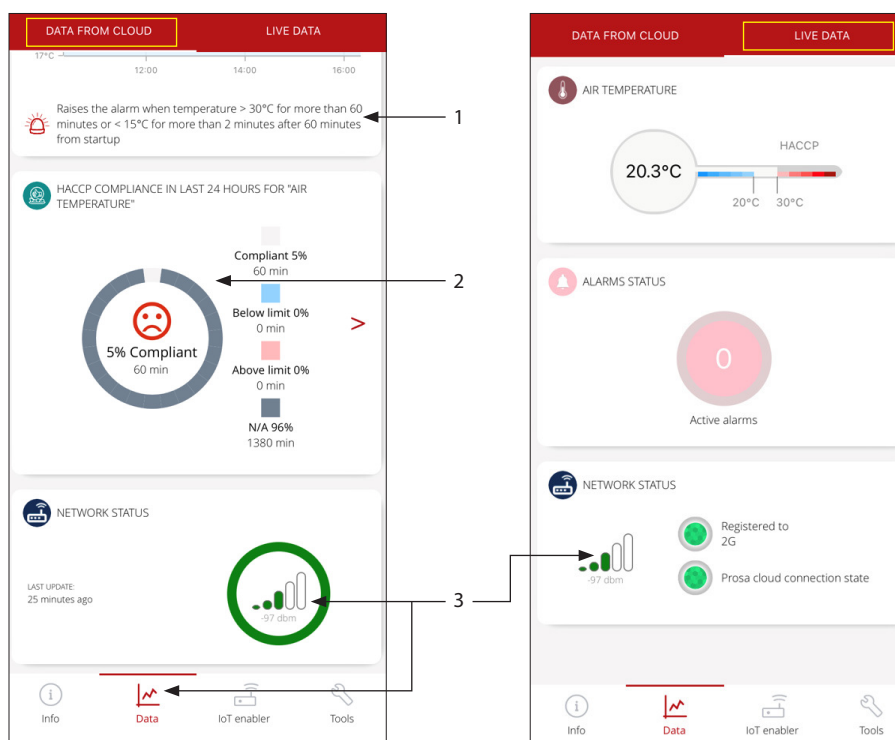
My account: to review your personal data, username, change your password, notification settings, privacy policy, or log out of app. You can disable and enable app and email notifications here. This is also where the subscription module is.

App settings: select language, unit of measure in km or miles, and default temperature to celsius or fahrenheit.

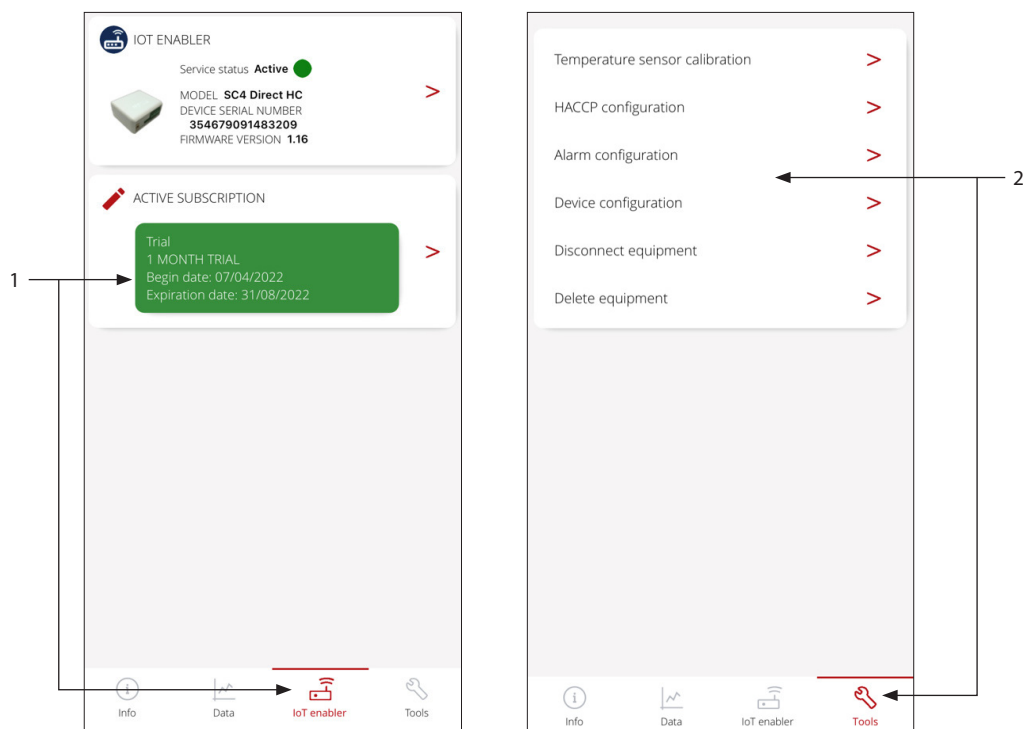
Notification center: here you can view all alarms associated with your account.

Logout: logout of the ProsaLink app.

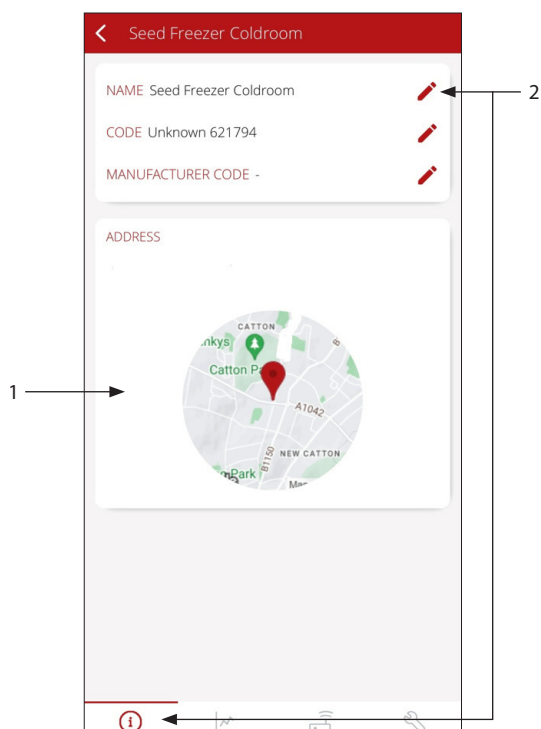
4.4 ProsaLink app dashboard navigation



1. Defined alarm settings can be viewed here. If the alarm condition does not reset automatically, a new notification will be sent to the account owner & shared contacts every 24 hrs until either, the temperature drops under the min/max alarm setting, or if the account owner acknowledges the alarm.
2. Press here for HACCP data/table and to export the data.
3. Device network status either from cloud or live data.



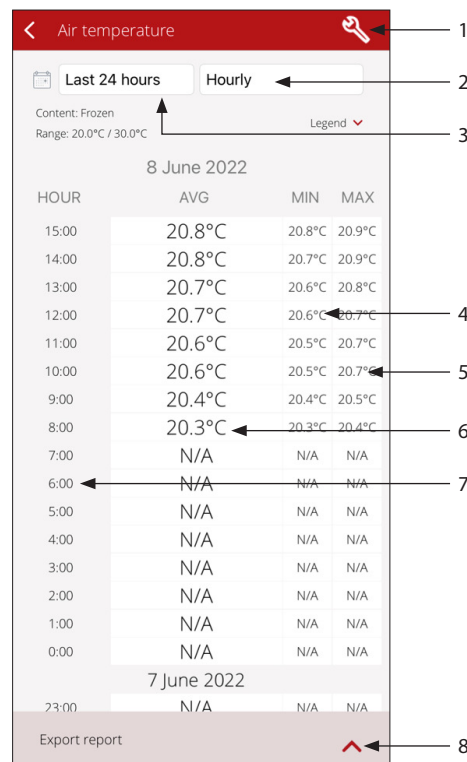
1. The IoT enabler widget shows the current subscription status. If this is red the end user/bill payer has not subscribed to the service or the subscription has expired and needs to be reactivated. The account owner is notified by email prior to the service being stopped. If this is green the service status is active. The device serial number and firmware version is also displayed here.
2. The tools widget allows you to make the following changes. The following parameters can be adjusted remotely in the ProsaLink app through "Cloud mode" in "Tools" section by the account owner or admin user.
 1. HACCP Configuration (data logging only)
 2. Temperature Alarm configuration



1. The address and geolocation will be shown here.
2. Adjust the name of the asset here. The code and manufacturer code is not relevant on this model.

HACCP data page = automatically records every hour.

From initial start this will start the report automatically up to 2 hours later.



1. "Spanner" symbol press here to view and modify haccp settings and type of product
2. Change data from "hourly" to "daily"
3. "24 hours" or "last week" "last month" or "custom"
4. Minimum temperature recorded
5. Maximum temperature recorded
6. Average temperature based on minimum and maximum value
7. Hourly temperature log intervals
8. Export the data to an excel file

We collect information from the site every 5 mins and transmit to cloud every 20 mins.

A simple analogy of Prosa account designation is that an installer purchases the hardware for the "end user" customer, the installer "associates" the device with the smartphone and then enters their customer email credentials during set up. If the end user, then wants other people to have access to the site data they must go to the "account management" tab and add another user. The end user can then nominate if the additional user has read only or admin privileges, admin gives the user the ability to carry out changes to the configuration.

The account owner (bill payer) can add unlimited additional users visibility of the site data by pressing the + symbol found in the "accounts management" section on page 8 and entering the additional user credentials. The new user will then be sent a temporary log in to the ProsaLink app where they can access the site data, they may then adjust the user name and password to one that is unique to them, found in the "my account" section. In "The account owner" bill payer can add or remove additional users at any time they wish by adding or removing from the "accounts manager" section. The installer does not have this privilege to do this if they do not own the equipment or account.

4.5 Prosa device signal strength

The device signal strength can be checked by viewing "Live Data" or on "Data from Cloud"

Red Flag is if the signal strength is higher -93 dbm (barely acceptable) to -105 dbm (insufficient for the device to transmit)

We collect information from the site every 5 mins and transmit every 20 mins.

"**Data from Cloud**" is when you are not connected via Bluetooth. For example, when you are not on site all data will be "Data from Cloud".

"**Live Data**" is when you are near the equipment and the smartphone is connected to the device via Bluetooth. 1 device at a time. If you have more than 1 device on site, these will be visible in the "IoT enabler installation" section for either devices already "associated" or "uninstalled devices".

A mobile phone/SIM signal (also known as reception and service) is the signal strength (measured in dBm) received by a mobile phone from a cellular network (on the downlink). Depending on various factors, such as proximity to a tower, any obstructions such as buildings or trees, etc. this signal strength will vary. Most mobile devices use a set of bars of increasing height to display the approximate strength of this received signal to the mobile phone user.

If the antenna needs to be relocated outside of the building, longer antenna can be purchased. An example of [Covvy Antenna Extension Cable](#).

5. Ordering

Model	Description	Code no.
PR-SC4K Direct	Telemetry Kit (full kit)	300B4325

For aftersales support, subscription and account questions please contact support.prosa@danfoss.com

To access the PC version of the Prosa IoT portal, please follow this link and sign in using the same user credentials as if you were using the ProsaLink app
<https://vbx.prosa.com/vebox/login?logout>

In the PC version it is among other things possible to find earlier HACCP data.

Installer check list before handing over to the customer/end user/subscription bill payer/account owner.

Have I,

1. Set the correct temperature alarm configuration on each asset?
2. Set the HACCP min/max temperature and is the tabular data logging?
3. Configured & tested any digital inputs connected to the Prosa device?
4. Entered the account owner/end user credentials into the app during initial set up?
5. Checked if app (push) notifications and email notifications are enabled, installer and end user?
6. Triggered a false alarm, to verify if the ProsaLink app is emailing you and your customer (end user) the alarm data?
7. Are the connected assets clearly labelled, so that the end user can identify the name and where the equipment is located, for example "Fruit and Veg chiller" or "Frozen Food Cold room 1" the name on the asset on site should be the same as the name on the ProsaLink app or vice versa.

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