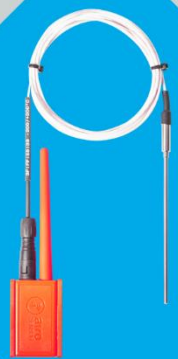
Sense Anywhere

AssetTagging

Version 1.0

Wireless sensing, logging and control... Anywhere



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AssetTagging

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Definitions and abbreviations

Table 1 Definitions and abbreviations

Definition / Abbreviation	Explanation
AssetTagging (AT)	The concept of linking SenseAnywhere data loggers or external modules to the assets they monitor as described in this document
AssetTag	Card with barcode for the holder and QR code for on the outside of an asset representing the monitored asset in SAClient.
Asset	The equipment or environment which is monitored with a SenseAnywhere data logger
Holder	The U-shape holder that comes with SenseAnywhere data loggers for mounting purposes

What is AssetTagging?

Many industries are required to monitor temperature conditions of goods in order to meet quality standards. Regulations require regular (re)calibration of the temperature measuring equipment used for monitoring. Now calibrations are mostly performed at (accredited) calibration laboratories at an external location and can take some time. In the meanwhile, you do not have access to the actual temperatures of your goods, the alarms and reporting functions. Since you want to be able to provide authorities with a complete temperature history of your goods, without monitoring-gaps, you use SenseAnywhere AssetTagging to take care of this.

It is possible to replace the out-for-calibration data logger with another one. However, you need to reconfigure data logger settings, alarm profiles and reporting settings. Also, you need to keep record of which data logger was monitoring at what period of time. More administration, more prone to error and more hassle. Therefore, SenseAnywhere has developed software to monitor conditions continuously using an AssetTag, which you can use with different data loggers over time. We call this AssetTagging.

AssetTagging is the concept of linking a data logger to an AssetTag. It does not matter which data logger is linked to an AssetTag and a data logger can be switched (swapped) at any time, with a recently calibrated one. The whole monitoring set-up keeps working as expected. This allows you to have a complete (temperature condition) history of your goods, even if the data logger is being replaced with another one from time to time.

What are AssetTags?

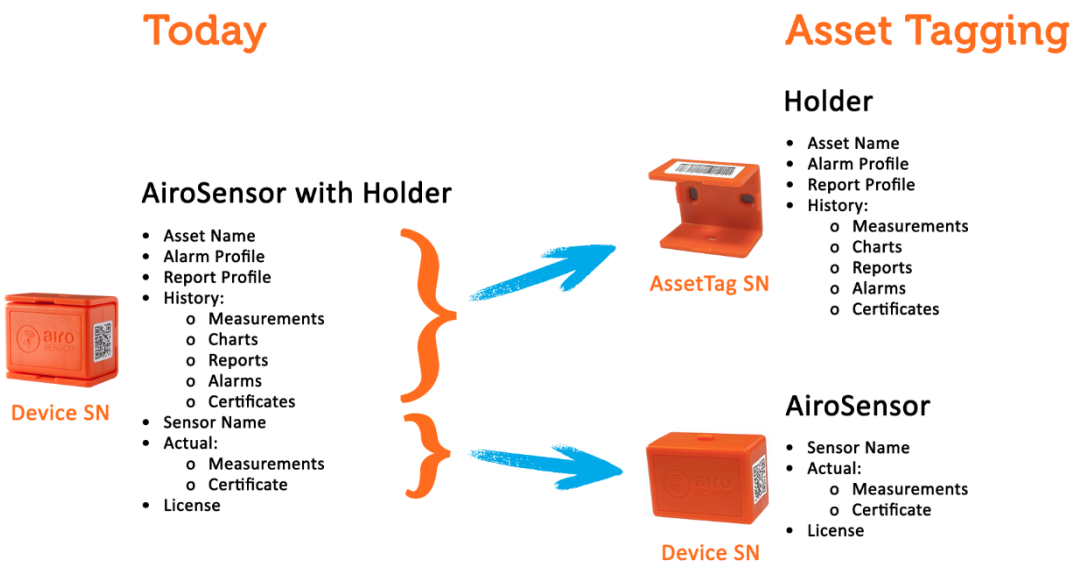
AssetTags are small plastic cards that will assign a serial number to an asset. In our case the asset is the u-shape holder of an AiroSensor that is fixed to an asset and has the temperature of the asset that needs to be monitored. With AssetTagging the key data stored in the SenseAnywhere databases is linked to the AssetTag and no longer to the AiroSensor which is placed in the holder of the Asset. With this principle alarm and reporting settings and historical data are linked to the asset and data loggers can be exchanged from time to time for recalibration without any downtime while the logger is recalibrated and without any additional administration.

AssetTagging solves your recalibration issues.

An AiroSensor in its holder or an external module contains a complete set of data in the SenseAnywhere portal SAClient:

- Actual and historic data
- Graphs
- Reports
- Alarm profiles
- Calibration certificates

With AssetTagging, the AiroSensor and the holder are split up. The AiroSensor only has the actual data and current calibration certificate and the holder with an AssetTag own all other data. This way, several AiroSensors can be coupled successively to an AssetTag over time, while the monitoring set-up remains unchanged.



What steps should be taken with AssetTagging?

Important: To start using AssetTagging with a new installation, please follow the steps below. If you have SenseAnywhere data loggers installed in assets and you want to add the AssetTagging functionality, please see section: What steps should be taken adding AssetTagging to an existing installation?

1. Buy AssetTag cards from your SenseAnywhere reseller for the amount of assets you would like to monitor.
2. Go to Management > Register Device and follow the instructions for registering your AiroSensors and SenseAnywhere Bus modules.
3. Go to Management > Register Device and follow the instructions for registering an AssetTag.
   Please note you do not need Credits for registering AssetTags.
4. Snapp-off the bottom part of the card with the barcode of the AssetTag card and attach it to the holder of a data logger as the holder itself represents the actual asset. Next, place the top part of the card with QR code on the outside of the asset (fridge/freezer/…) on an area that is easily accessible (this is optional). By scanning the QR code, you can retrieve temperature conditions from within the asset where the actual data logger is located. This means you do not have to reach out for data logger inside the asset. Make sure you keep to two parts together at the same asset!
5. Couple the data logger to the AssetTag (first online, then physically in the holder).
6. If the data logger can temporarily not be used (e.g. in case of calibration), swap another data logger into the holder with the AssetTag. Climatize the new data logger to the asset's environment first, otherwise alarms could be triggered immediately.
7. Optional check the overview screen in SAClient or scan the QR with a smart device after 15 minutes to see if the data is consistent.

These steps are explained in more detail below.

What steps should be taken adding AssetTagging to an existing installation?

1. Buy AssetTag cards from your SenseAnywhere reseller for the amount of assets you would like to monitor.
2. Go to Management > Register Device and follow the instructions for registering an AssetTag.
   Please note you do not need Credits for registering AssetTags.
3. Snapp-off the bottom part of the card with the barcode of the AssetTag card and attach it to the holder of a data logger as the holder itself represents the actual asset. Important to know is that the glue on the double-sided tape does not attach at temperatures below freezing. Once the glue has attached to the holder the glue will stick at temperatures below zero degrees C. A good practice is to heat up de holder a bit with a hair dryer before attaching the AssetTag.
   Next, place the top part of the card with QR code on the outside of the asset (fridge/freezer/…) on an area that is easily accessible (this is optional). By scanning the QR code, you can retrieve temperature conditions from within the asset where the actual data logger is located. This means you do not have to reach out for data logger inside the asset. Make sure you keep to two parts together at the same asset!
4. Check the alarm profiles and move the Alarm from the data logger to the AssetTag by deselecting the SN of the data logger and selecting the SN of the AssetTag. Do the same with the reporting profiles. Change the name of the logger to its SN. Change the name of the AssetTag to the name of the asset it is monitoring.
5. Couple the data logger to the AssetTag (first online, then physically in the holder).
   When you do the online coupling you have the option to select the current date or the registration

date of the data logger that you want to couple as couple date. This way the historic data of the data logger is coupled also directly to the AssetTag.

6. If the data logger can temporarily not be used (e.g. in case of calibration), swap another data logger into the holder with the AssetTag. Climatize the new data logger to the asset's environment first, otherwise alarms could be triggered immediately.
7. Optional check the overview screen in SAClient or scan the QR with a smart device after 15 minutes to see if the data is consistent.

How to register AssetTags?

Go to Management > Register Device to register the AssetTag. Type in the AssetTag serial number in the text box on this page. This serial number is located on the side of the holder of the data logger (if you have put the barcode of the AssetTag card on the side of the holder as instructed). After registering, the AssetTag should be online and visible. Registration of an AssetTag does not cost Credits.

How to use the AssetTag card?

The AssetTag card can be purchased from your SenseAnywhere reseller. This small plastic card has a unique serial number and QR code that represents an asset:

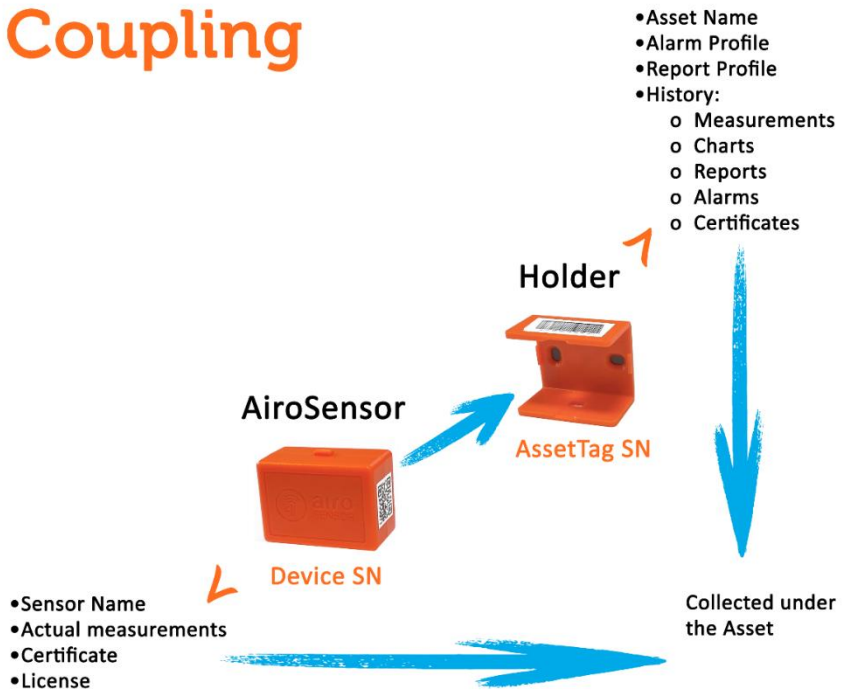
The back has 2-sided foam tape like a standard AiroSensor holder. The bottom part can be snapped-off and should be attached to the side of the holder. The top part can be placed on the outside of the asset (fridge/freezer). To see the state of the asset, simply scan the big QR code on the door with your smart device. The QR dashboard looks as usual. However, with an AssetTag, you can also see which device (serial number) is attached. You can easily proceed to SAClient for coupling, decoupling or swapping.

How to couple?

Coupling is used to couple/ link a data logger to an 'empty' AssetTag, which isn't coupled to another data logger yet.

Perform the following steps when coupling is needed:

1. Go to Management > Sensor and press the 'Manage assets' button at the bottom of the table.
2. Press the AssetTagging button on the right side of the table of the asset you want to manage.
3. Choose the 'Couple' option from the menu.
4. Read the conditions carefully and make sure you meet them.
5. Continue coupling.
6. Select the data logger that needs to be coupled to the AssetTag.
7. Remarks can be entered if desired.
8. If the registration date of the data logger should be used as the couple moment, select this checkbox. This means that the registration date is considered as the start of coupling. In that case, all measurements are linked to the asset from the registration date of the data logger onwards.
9. Check if there are any warnings or errors.
10. Solve any warnings and errors before coupling. It is not always strictly necessary to resolve warnings, but this is strongly recommended.
11. Check once more to see if all suggestions were resolved successfully and couple the data logger when there are no more warnings/errors.
12. A message appears indicating that the data logger has been successfully coupled.
13. It is important to place the data logger in the AssetTag holder as of **now** (not at an earlier stage)
14. You have successfully finished coupling.
15. From now on, the data of the AssetTag should be viewed, instead of the data logger's data.



How to swap?

Swapping is used to change one data logger in an AssetTag holder with another one. Perform the following steps when swapping is needed:

1. Climatize the new data logger to the asset's environment first (e.g. put the data logger in the fridge/freezer), otherwise alarms will be triggered after swapping almost immediately.
2. Go to Management > Sensor and press the 'Manage assets' button at the bottom of the table.
3. Press the AssetTagging button on the right side of the table. 
4. Choose the 'Swap' option from the menu.
5. Read the conditions carefully and make sure you meet them.
6. Continue swapping.
7. Select the data logger that needs to be swapped to the AssetTag.
8. Remarks can be entered if desired.
9. Check if there are any warnings or errors.
10. Solve any warnings and errors before swapping. It is not always strictly necessary to resolve warnings, but this is strongly recommended.
11. Check once more to see if all suggestions were resolved successfully and swap the data logger when there are no more warnings/errors.
12. A message appears indicating that the data logger has been successfully swapped.
13. It is important to swap the data logger to the AssetTag holder physically as of **now** (not at an earlier stage). Do not wait too long as the current logger will stop logging and the new logger will only start logging after it has been inserted into the holder.
14. You have successfully finished swapping.

When this swapping occurs, the following will happen:

- The old data logger will stop logging (will be deactivated).
- The new data logger will start logging (will be activated when it is inserted into the holder AFTER the logical swap has been performed).
- The timers of the data loggers will be swapped.
- The license end date will move from the old data logger to the new data logger: no extra licenses or Credits need to be spent for this.
- Alarm profiles, reports, charts and historical data will all stay linked to the AssetTag's serial number and will not be affected.

Swapping

Step 1

Put the new logger
next to the current logger

Current logger

- Asset Name
- Alarm Profile
- Report Profile
- History:
  - Measurements
  - Charts
  - Reports
  - Alarms
  - Certificates
- Sensor Name
- Actual:
  - Measurements
  - Certificate
- License

Step 2

Wait about one hour to let
the new logger acclimatize,
otherwise alarms will be triggered
immediately when you swap

Current logger

- Asset Name
- Alarm Profile
- Report Profile
- History:
  - Measurements
  - Charts
  - Reports
  - Alarms
  - Certificates
- Sensor Name
- Actual:
  - Measurements
  - Certificate
- License

Step 3

Software Swap (Preset)

License is transferred from current to new logger: stays at the Asset

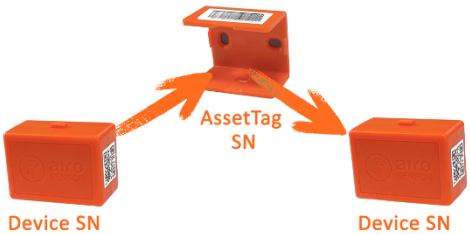
New logger:
Being activated in software
Starts logging when placed in
the holder (dock)

Current logger:
Being deactivated in software
Stops collecting measurements within a few minutes
Can be sent to lab for recalibration

Step 4

Hardware Swap

- Asset Name
- Alarm Profile
- Report Profile
- History:
  - Measurements
  - Charts
  - Reports
  - Alarms
  - Certificates



E.g. Freshly calibrated Logger

- Sensor Name
- Actual:
  - Measurements
  - Certificate
- License

E.g. To be recalibrated Logger

- Sensor Name
- Actual:
  - Measurements
  - Certificate
- No License

Important:

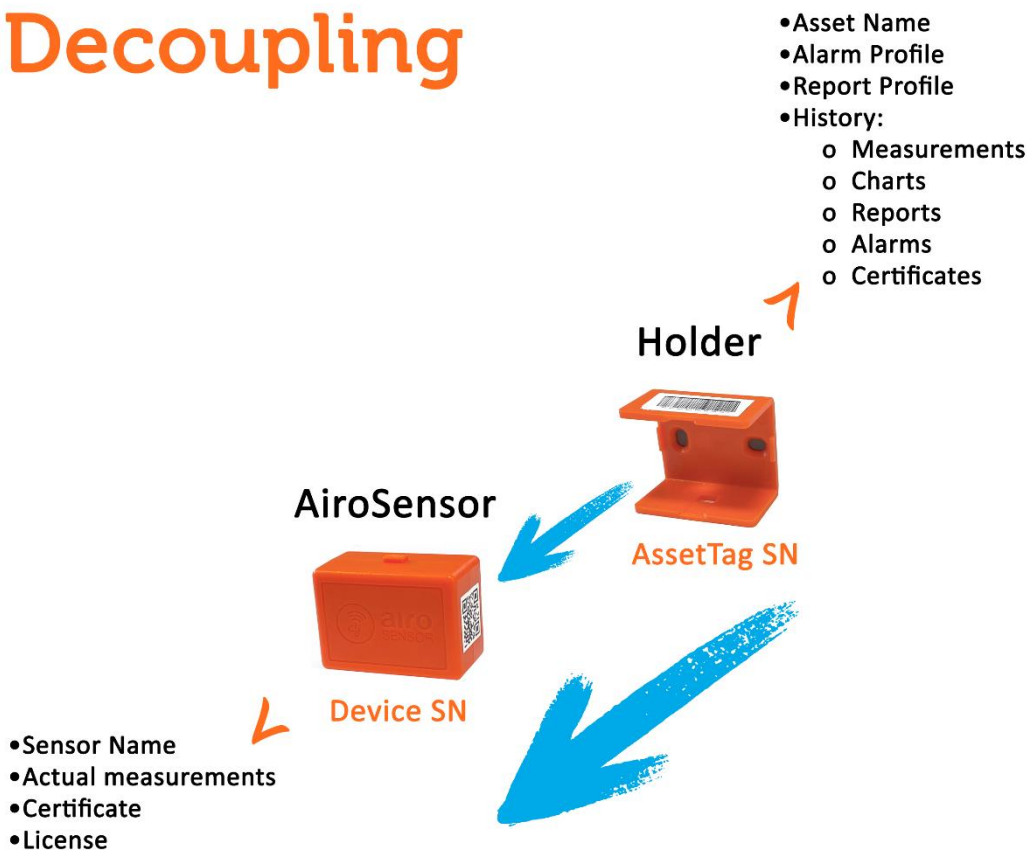
- Do the software swap before the actual hardware swap!
- Do not wait too long before software swap (step 3) and hardware swap (step 4)

The swap is not complete until we detect an undock from the current logger
and a dock from the new logger after the software swap has been done

How to decouple?

Decoupling is used when a data logger is taken out of an AssetTag and no new data logger is inserted, so the AssetTag remains empty. This typically happens when the asset is taken out of service or no longer needs to be monitored. Perform the following steps when decoupling is needed:

1. Go to Management > Sensor and press the 'Manage assets' button at the bottom of the table.
2. Press the AssetTagging button on the right side of the table.
3. Choose the 'Decouple' option from the menu.
4. Read the conditions carefully and make sure you meet them.
5. Continue decoupling.
6. Remarks can be entered if desired.
7. Check if there are any warnings or errors.
8. Solve any warnings and errors before swapping. It is not always strictly necessary to resolve warnings, but this is strongly recommended.
9. Check once more to see if all suggestions were resolved successfully. It is important to decouple the data logger when there are no more warnings/errors.
10. A message appears indicating that the data logger has been successfully decoupled.
11. It is important to undock the data logger from the AssetTag holder as of **now** (not at an earlier stage).
12. You have successfully finished decoupling. The logger keeps the current license and continues logging.



How to set up an alarm for an AssetTag?

Perform the following steps to set up an alarm:

1. Go to Alarm > Profile and add a new Alarm Profile.
2. Select the relevant AssetTag instead of the data logger.
3. The other settings can be set as usual.

How to create a report with AssetTags?

Perform the following steps to create a report with AssetTags:

1. Go to Management > Report and create a new schedule.
2. Select the relevant AssetTag instead of the data logger.
3. The other settings can be set as usual.

How to use charts with AssetTags?

Using charts with AssetTags works in the same way as using charts with data loggers. AssetTag charts and logs can be created on the Overview menu. If the AssetTag is selected instead of the data logger, AssetTag data will be displayed.

How does the data logger calibration process work with AssetTagging?

When data loggers are calibrated, it is important that they can be replaced by other – freshly (re)calibrated - data loggers when recalibration is due. These (20-25%) extra data loggers with a certificate can be purchased from your SenseAnywhere reseller before the first recalibration takes place. Please make sure to take the following steps:

- Swap the new data loggers with the ones that need to be recalibrated
- Ship the to-be-recalibrated data loggers to your SenseAnywhere reseller for recalibration
- Data loggers get recalibrated, and new certificates are uploaded in SAClient
- Recalibrated data loggers are swapped with the next set of to-be-calibrated data loggers
- The next set of data loggers are shipped for recalibration
- This process continues until all AssetTags have a data logger with a valid calibration certificate

This process is fast, easy to implement with a full documented administration and date history of your assets with zero down time and no external personnel walking around with calibration equipment.

Is AssetTagging more expensive due to the purchase of extra data loggers?

It is important to note that the extra data loggers purchased are an extra investment but do not add up to the total cost of ownership. The reason for this is that the, for example, 25% extra data loggers are not operational (not consuming standard battery power) as they are not in use. On average, a data logger will not be operational for 25% of its lifetime, resulting in a 25% longer battery life. In addition, the extra data loggers do not consume Credits when not in use. Once they are used (registered), they start consuming Credits.

What are the costs of AssetTagging?

An AssetTag can be purchased once per asset (measuring point). Ask your SenseAnywhere reseller about the cost of the AssetTag card. Registration of the AssetTag does not cost Credits, and there are no license costs. So, there are no running fees.

The don'ts of AssetTagging?

- Do not register the logger you purchase for swapping out the to be recalibrated data loggers. The logger that is replacing the old data logger will get the license transferred from this logger. When the logger is swapped-out it will stop recording and does not have a license attached.
- Make sure the new loggers have been able to climatize to the asset. Otherwise unnecessary alarms can be triggered.
- Do not physically swap the loggers before swapping them logically in the software. This might result in a gap in the data logging.