

# eupry

## ENVIRONMENTAL COMPLIANCE AS A SERVICE

A SECURE AND FUTURE PROOF SOLUTION FOR IMPROVING  
EFFICIENCY IN ENVIRONMENTAL COMPLIANCE WITH IoT  
PROVIDED AS A SERVICE

PRODUCT LAUNCH - Eupry Aliio



# ***We increase the level of quality and lower the amount of time spent maintaining it!***

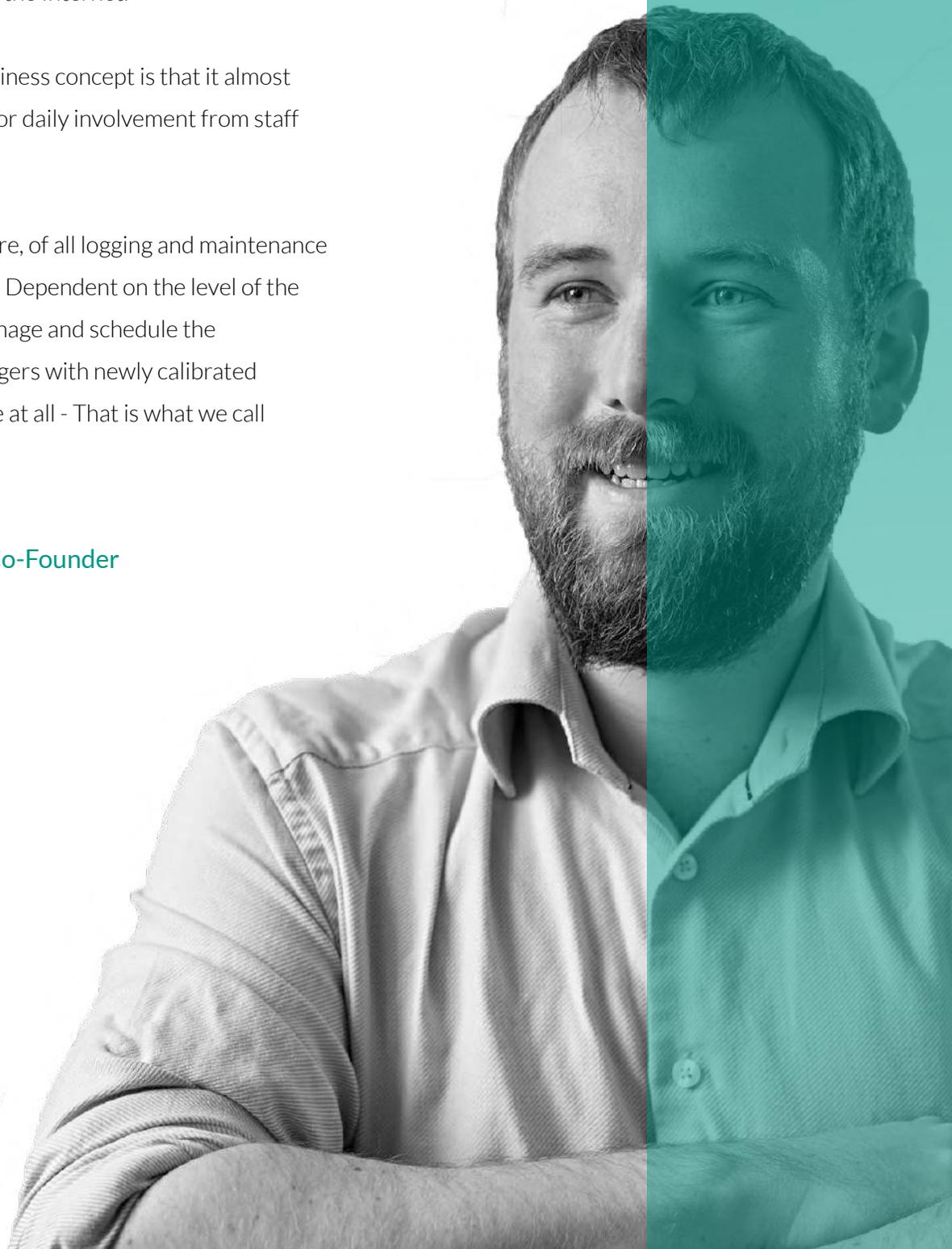
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Environmental Monitoring is not a new invention, and today there are a vast number of options available, from manual handwritten logging and USB-logging to more automated logging systems connected via the Internet.

The uniqueness of Eupry's business concept is that it almost completely renders the need for daily involvement from staff members obsolete.

Using our solution, 95% or more, of all logging and maintenance routines will be handled by us. Dependent on the level of the service agreement, we will manage and schedule the replacement of Eupry data loggers with newly calibrated loggers, without any downtime at all - That is what we call Compliance as a service.

**Jakob Konradsen**  
Chief Quality Officer and Co-Founder



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**ALSO:** How is a Eupry mapping conducted



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# THE EUPRY CONCEPT

Eupry provides a custom solution that is tailored to your exact needs. With Eupry, you get access to all our services. You only have to decide what services you would like us to help you with.

## Why?



### Qualifications

Reduce risk and valuable time during qualifications.



### Calibrations

Automated calibrations made to reduce downtime and cost



### Monitoring

Free up time with intelligent monitoring and deviation management software

## What?



Temperature



Humidity



Carbon Dioxide



Differential Pressure

## Where?



Fridge



Freezer



Incubator



Storage



eupry

# SERVICE

IS OUR MAIN PRODUCT

Eupry's services allow you to stay compliant at all times, and provide ease of mind

## IS YOUR PROCESS OF MONITORING AND CALIBRATING DATALOGGERS STILL NOT AUTOMATED?



It is a very time-consuming task monitoring fridges, freezers, and storage rooms. Knowing that authorities will look through paper-based temperature documentation as the first topic on the agenda at a visit, can additionally make it a nerve-breaking and exhausting sum of tasks.

We know you do your best to keep up with the workload and the requirements set forth and do your utmost to live up to the standards.

We are here to present a solution that will enhance the level of quality and free up your time in the current process. With our solution, you can confidently let your laboratory technicians and QC/QA department get back to maintain their other much more business-critical tasks.

## IS YOUR TIME ON MONITORING-RELATED TASKS SPENT EFFICIENTLY?

From experience a client with 30 data loggers spends **900 hours** yearly maintaining compliance

... on time-consuming task such as

- Documenting temperatures
- Understanding deviations
- Fixing technical issues
- IQ OQ PQ
- Repairs
- Guarantees
- Training
- Disposal
- Updates
- Requirement Analysis
- Sourcing
- Instrument Administration
- Compliance to calibration standards
- Calibration
- Instrument Deviations



## EUPRY OFFERS A COMPLETE SOLUTION



Wi-Fi Data Logger



Online Access



Quality Reporting



Automated Calibration

## IMAGINE ALWAYS BEING COMPLIANT WITHOUT HAVING ANY CONCERNS

Using a USB-temperature data logger to manually monitor the temperature in fridges, freezers, and incubators is an extremely time-consuming task. And having to do it twice daily, generates a series of additional compliance tasks while exposing the process to errors. For every freezer, fridge, or incubator our service will save you up to 30 hours a year in compliance work. For a company with 100 units, this amounts to 3,000 man-hours every year. **What could you imagine doing with this time?**

Eupry allows you to measure environmental parameters such as **Temperature, Humidity, CO2, and Differential pressure** while having integrated a full-service package around it. Thereby, additional time can be saved on compliance tasks such as deviation management, data logging, alarms, etc. **This is what we call Compliance as a Service!**

Using Eupry all you have to do is



Handle potential alarms



Switch sensors yearly

and recalibration now only takes



...Yes, you read that right!

# FREJA

In 2017 Freja Transport & Logistics A/S in Denmark chose Eupry as their supplier for Temperature Monitoring service. Today, Freja have installed more than 30 Wi-Fi Data loggers that include Eupry's 21 CFR Part 11 compliant add-on feature.

**Eric Clausen**  
*Freja QES Manager*

”

“Eupry’s system offers a very user friendly day-to-day interface. Eupry delivers a turnkey service that enables Freja to be more effective in our work with compliance and deliver a quality product to our customers. Particularly convenient is the automated calibration process where Wi-Fi data loggers are replaced with new calibrated ones automatically every 12 months.”



novozymes

**Henrik Frydensberg Mouret**

*Novozymes Senior Research Associate*

”

"Dorte Egelund ApS & Eupry have provided a consistently user-friendly set-up. With Eupry monitoring system installed on our new site in Lyngby, we have optimized several points for quality assurance. This includes correct temperature documentation, easy data handling and temperature fluctuation alarms. Dorte Egelund ApS & Eupry offer a 12 month automatic calibration interval, which means that our samples are always in safe hands. Eupry is simple and user friendly and it took us no longer than 2 minutes per logger to get up and running. I can highly recommend Dorte Egelund ApS & Eupry's monitoring system to other Novozymes departments."

novozymes®



Rethink Tomorrow

## DO MAPPING SESSIONS CAUSE YOU GREAT UNCERTAINTY?



The final part of validating a storage area-refrigerated or -ambient - is the thermal mapping study. This is where it is tested and verified that it can store contents as it is specified to.

It is crucial that this study is conducted as reliable as possible, as it can require several runs before all equipment is adjusted.

## HAVE YOU EVER EXPERIENCED DELAYS DURING OR AFTER ?



### Unexpected delays

If temperatures are not regulated correctly or if a door is opened accidentally, the test is unsuccessful. You will first notice this when the data has been exported. This can cause delays in the validation process as yet another test needs to be conducted. On average this can cause a delay of 3-4 business days + weekends!

### From OQ → PQ

When the first test is completed, you need to collect each data logger at their position - plug it into the USB-port, export documentation, collect and add all data to the same spreadsheet and start calculating. Next, data loggers have to be reprogrammed and placed in the same positions as to where they were taken from. On average, this takes 4 minutes per data logger. With 100 data loggers, this amounts to 7 hours. Misplacement of data loggers typically causes another couple of hours of labor.



### Data analysis

Having exported all data, you need to create a report containing the calculations and results of the study. The work is extremely time consuming and there is a great risk of mistyping information, potentially causing quality deviations. For a professional, this is around 20 hours of work.

### Matching documents

In the final stages, all documents need to be matched and referenced. All data loggers are shipped to perform exit calibrations and in return, you receive calibration certificates. The process requires waiting 7 days for calibrations to be processed. There is a great risk of misplacing certificates and references during this process.

## GET A EUPRY MAPPING KIT AND OPTIMIZE YOUR MAPPING PROCESS



### Reduce setup time

Set up all data loggers with one click! Calibration Certificates for each logger can be downloaded and reviewed before conducting the session. With Eupry, there is no need for manually having to pair a logger with a certificate.



### Real-time overview and data access - Risk reduction

Eupry's Wi-Fi data loggers used for mapping allow you to track the process during the procedure. Thereby, your risks are reduced as issues will be identified immediately.



### Reduce time for data handling - Wireless export

By being able to download all the results for all the loggers at the same time, time is spent optimally. Especially compared to mappings where data is extracted from USB-data loggers. Data is downloaded with a few clicks either in our user-friendly report-format or as raw data excel sheet that can easily be analyzed and further processed.



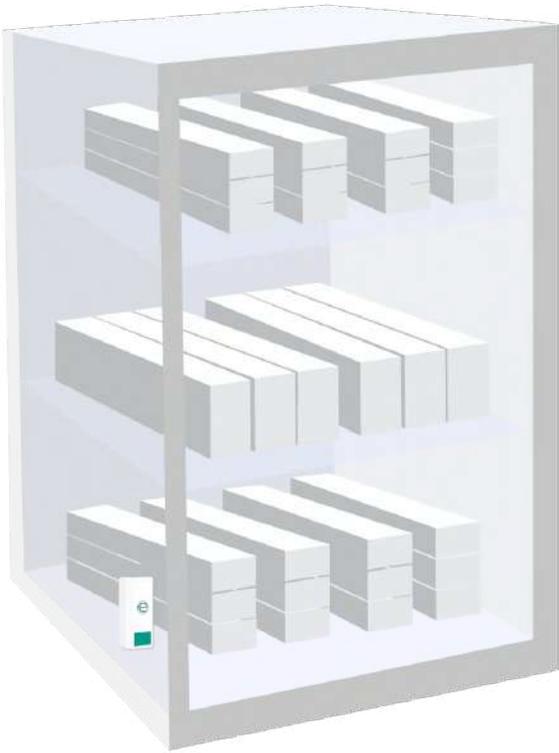
### Simple and easy data analysis

With our built-in data analytics software, it's possible to avoid downloading any data - box plots, graphs, and suggestions are created in realtime. Moreover, it even reduces the risk of mishandling data due to the process of downloading and working with raw data in spreadsheets.

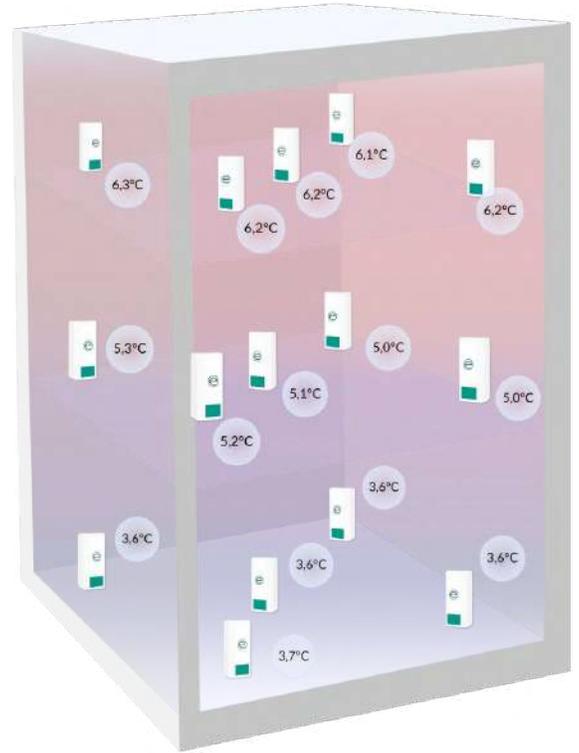


### Full Traceability - Online calibration certificates

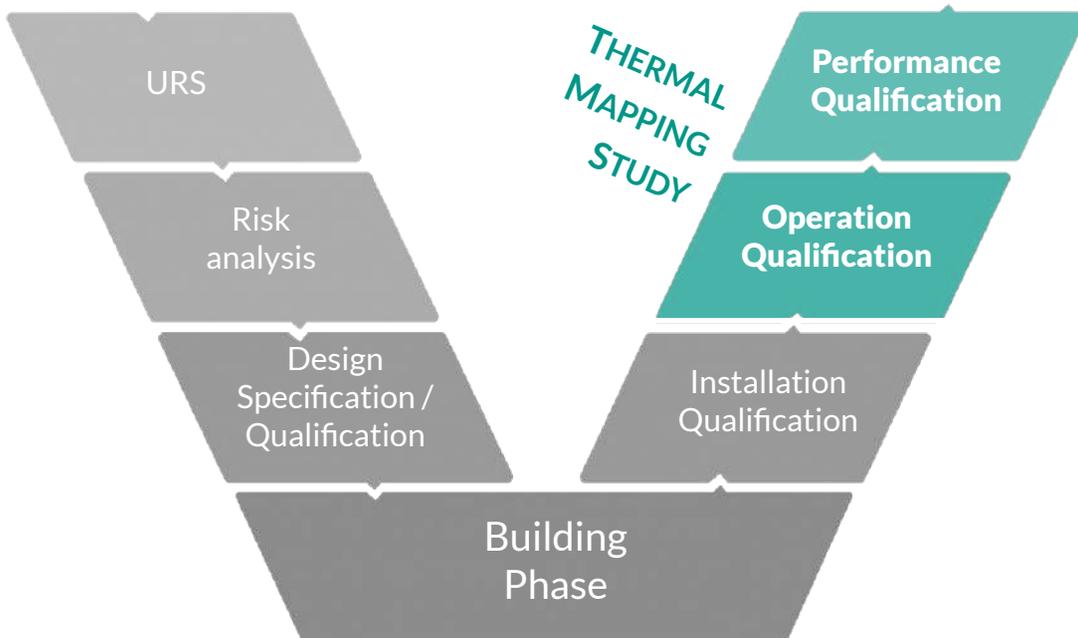
With online access to all calibration certificates for each logger, it has never been easier to track the origin of each measurement. When creating the report, all calibration certificates are automatically exported. START- and EXIT-calibration can be performed within days at Eupry's innovative calibration laboratory.



For most people, a fridge is 5 degrees cold. However, the final part of the validation process - the thermal mapping study - will reveal much more than first anticipated.



With Euprys Mapping solutions, we will zoom in on your fridge and show that it is a world of temperatures.





Receive Eupry's mapping kit with all the data loggers required.



Place data loggers according to your mapping protocol.



Download and review calibration certificates.



Set up mapping and follow the results of the mapping online in real-time.



Analyze data and download a mapping report, suited to your specific mapping protocol.





## Accredited by DANAK ISO 17025

Our highly rated ISO 17025 accredited laboratory might be the world's most automatic and digital ISO 17025 accredited laboratory. This grants us the advantage of making reliable calibrations at lightning speed.



## Hardware validation

Following the process of the V-model, our hardware components are validated, developed, and maintained accordingly. Our rental model ensures that all data loggers are thoroughly checked and serviced each time they are calibrated, which allows for a high rate of reliability.



## IT-validation

IT and software are validated based according to the V-model. Change management procedures are enforced by Eupry.



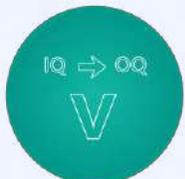
## Data storage and ownership

Data is owned by the client. Eupry host the data for +10 years (or longer if needed). Data can be regularly downloaded by the client and it is possible to completely remove data if desired.



## 21 CFR Part 11

Live up to FDA requirements by using Eupry's 21 CFR Part 11 enabled software solution! You get password/ pin code protected changes, audit log solutions, and a user/ role hierarchy so you can keep track of every action in the system.



## IQ, OQ Qualification

Use our handy IQ and OQ qualification document-package, while implementing Eupry.



## Questions and Audit

We are open to discuss all quality-related matters, and we will gladly open our doors for an on-site audit.



## Data Security

All data transmitted between services is encrypted using AES. Hosting partners hold ISO 9001, ISO 27001, ISO 27018, Cyber Essentials Plus, and G-Cloud certifications. Databases are ongoingly backed up. Hot data backups ensure that no data at rest is lost in the handoff process and the archival backup process ensures full recovery in the unlikely event that our data centers will stop functioning.



# eupry PRODUCTS

The variants at Eupry that facilitate a custom-tailored solution



eupry aliio



**Adam Hartmann**  
Co-founder

” Aliio is one of Eupry’s new flagship technologies that will revolutionize the way calibrations are handled.

As part of our research into saving our clients time with intelligent compliance automation, we found that the process of maintaining calibrations was very time-consuming. It took a relatively large amount of effort to grasp the issue as it’s a combination of many tasks and typically many individuals (both managers and technicians)

We managed to rethink the process, validate this through several customer-interviews and large government-supported projects, which have been running for the last 2 years.

Aliio is the cornerstone of this process, a technology which in its physical appearance is no larger than 3 M&M’s stacked together, but the ingenuity which is placed into this small item is magnificent.



# eupry aliio



### 'SWAPPABLE' SENSORS

Aliio compatible sensor is put into the Eupry data logger and will be swapped yearly when calibration is due.

### 'PHYSICAL' CERTIFICATE

Aliio is a patent-pending technology that allows the measuring sensor to store its calibration certificate on the memory installed in the sensor. The certificate will be attached to every measurement and it can't be altered.

### ACCREDITED CALIBRATION

Calibrations are processed at Eupry's ISO 17025 accredited calibration laboratory in Copenhagen, Denmark with state of the art equipment, making it the most efficient calibration setup.

### ALIIO CALIBRATION PROCESS

1. Once every year, the Aliio sensor is due for calibration. This starts a chain reaction within Eupry.
2. Three months before calibration, technicians at Eupry are prompted that calibrations are due. The new Aliio sensor is placed in our calibration equipment and is automatically calibrated according to the client's preferences.
3. The new Aliio Sensor is sent from Eupry to replace the 1-year old sensor.
4. The client receives the batch of new Aliio Sensors and replaces them with the old ones.
5. Now, the old ones are sent back to Eupry and calibrated as well.

### STORES DATA

The Wi-Fi Data logger is connected to the Aliio sensor and has a memory of 3 weeks measuring data. It regularly sends measurements to the servers via Wi-Fi.

### HISTORIC DATA

Open up a browser and log in to Eupry Logger with your personal (company approved) credentials. Locate the current and historic calibration certificate(s) of the measuring device (and the measuring data).





All of Eupry's monitoring solutions center around the **Eupry Data Logger**. Used together with one of the Eupry Sensors, the data logger is the one that uploads the data and sends alarms. The data logger is easily set up and connected to the Wi-Fi using the free **Eupry Connect App**.

The Eupry data logger is secure, has high uptime, and there are no hidden operating costs. By facilitating **Wireless monitoring**, you will save many additional costs for cabling while receiving a carefree solution.

Different mounting options are available for the data logger. *Call us* today to hear what we can do for you.

Measurement Frequency	from 10 sec to 1 hour
Memory	10,000 Measurements
Data Connection	Wi-Fi 2.4GHz 802.11 b/g/n - End-to-End Encrypted
Casing Certifications	CE & ROHS
Power	2 x AA batteries (Lithium recommended)
Identification	Unique GS1 GRAI Code
Display	Wi-Fi Status & Measurement Status
Unit Dimensions	91.5mm x 37mm x 33mm
Casing Material	ABS Polymer
Alarm Types	SMS, Email, Phone
Hardware Guarantee	✓

## ALIIO TEMPERATURE SENSOR

Operating Range	-50°C to +50°C (-58°F to 122°F)
Temperature Resolution	0.01°C (0.018°F)
Drift/Year	±0.03°C (0.054°F)
Sensor type	Digital / Silicon bandgap sensor
Height (w. data logger)	33 mm (113 mm)
Cap material	POM



## ALIIO TEMPERATURE PROBE

Operating Range	-196°C to +150°C (-321°F to 302°F)
Temperature Resolution	0.08°C (0.14°F)
Thermal Response Time (τ)	9s
Sensor type	PT100
Flat Cable Thickness	1mm
Flat Cable Bending Radius	6mm
Total Cable Length	2.8m



## ALIIO HIGH TEMPERATURE PROBE

Operating Range	-196°C to +800°C (-321°F to 1472°F)
Temperature Resolution	0.08°C (0.14°F)
Sensor Interface	Digital
Typical Accuracy	Down to ±0.1°C (0.18°F)



## ALIIO HUMIDITY SENSOR

With the launch of Eupry Aliio, we have acquired a new and compatible external humidity sensor. The all-new humidity sensor allows for accurate measurements of moisture and air temperature.

Temperature Operating Range	-50°C to +50°C (-58°F to 122°F)
Humidity Operating Range	0-99% RH
Resolution	0.01°C (0.018°F) 0.01 %RH
Accuracy	±0.1°C ±1.5% RH
Drift/Year	±0.03°C (0.054°F)
Sensor Interface	Digital
Height (w. data logger)	33 mm (113 mm)



## ALIIO HUMIDITY PROBE

For extreme environments or complex installation sites, an *external* humidity probe can be used. The humidity probe allows for even more accurate measurements of moisture and air temperature.

Temperature Operating Range	-50°C to +125°C (-58°F to 257°F)
Humidity Operating Range	0-99% RH
Resolution	0.01°C (0.018°F) 0.01 %RH
Accuracy	±0.1°C ±1.5% RH
Drift/Year	±0.03°C (0.054°F)
Sensor Interface	Digital
Wire Length	100 cm (39.4 inches)



## DIFFERENTIAL PRESSURE SENSOR

Eupry's newest environmental sensor type is the differential pressure sensor. By using two tubes attached to the device, the pressure difference can be measured across two points in a closed system containing a gas.

Operating Range	-500 Pa to +500 Pa / -125 Pa to +125 Pa
Measuring Unit	Pascal [Pa]
Drift/Year	< 0.05 Pa/year
Interface	Digital Aliio
Dimensions	71*55*21 mm (2.8*2.2*0.8)
Wire Length	100 cm (39.4 inches)
Casing material	ABS



## CARBON DIOXIDE (CO2) SENSOR

Very soon, Eupry will also be able to facilitate the monitoring of carbon dioxide levels. Compatible with our data logger, the carbon dioxide sensor will function just like any other Eupry Aliio sensor.

Temperature Operating Range	400 - 10'000 ppm
Accuracy	±(30 ppm + 3%)*
Drift/Year	± 50 ppm*
Response Time (τ)	20 s.
Accuracy	±(30 ppm + 3%)*
Interface	Digital Aliio
Wire Length	100 mm
Weight	45 g.
Casing	71x55x21 mm (ABS)



## EUPRY 3G ROUTER

If you are experiencing difficulties connecting equipment to your local Wi-Fi, you can opt to use Eupry's 3G Router with connection alarming features.

<b>Measurement Frequency</b>	Every 3rd minute (alarms after 10)
<b>Wi-Fi Security</b>	WPA2
<b>Display</b>	Power, Wi-Fi, 3G & Server-connection
<b>Data Connection</b>	Wi-Fi 2.4GHz 802.11 b/g/n - End-to-End Encrypted
<b>Wire type</b>	LAN RJ45, DC power
<b>Dimensions</b>	70*110*25mm
<b>Casing material</b>	Metal



## CONNECTION STATUS UNIT

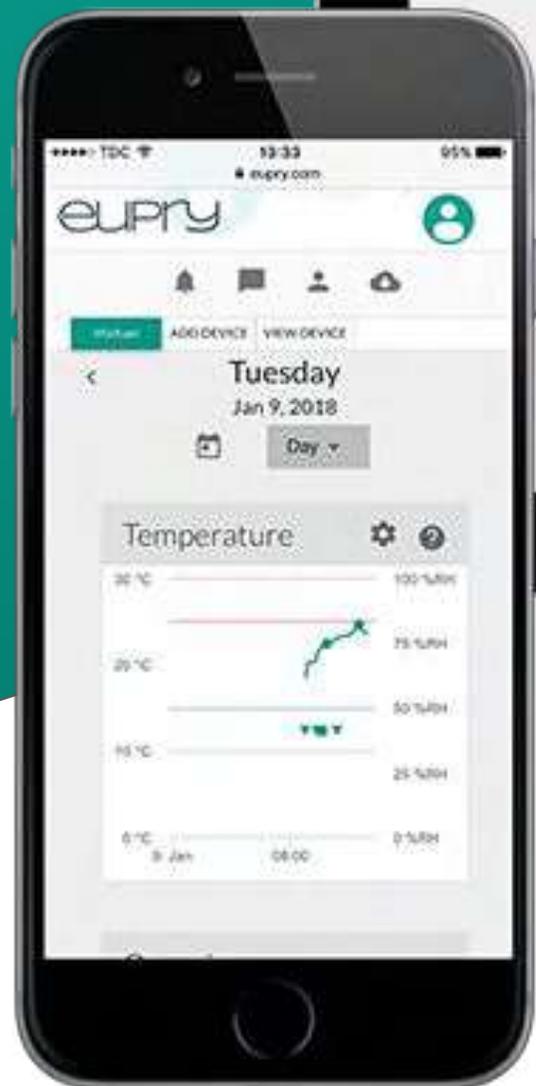
Eupry's Connection Status Unit, warns the user about potential internet breakdowns. This way, you are guaranteed that you will always get your monitoring alarms.

<b>Connection Frequency</b>	Every 2 minutes
<b>Wi-Fi Security</b>	WPA2
<b>Display</b>	Power, Wi-Fi, Server-connection
<b>Data Connection</b>	Wi-Fi 2.4GHz 802.11 b/g/n - End-to-End Encrypted
<b>Power Connector</b>	Micro-USB
<b>Dimensions</b>	76*76*25mm (3*3*1 inches)
<b>Casing material</b>	ABS



# EUPRY LOGGER

The Eupry Logger website is optimized for use on mobile platforms, and compatible with all browsers.





## Our customers are

- Molecular Research Labs
- Hospital Labs
- Research Laboratories
- DNA Laboratories
- Medical Practices
- Forensic & Crime Labs
- Pharmacies

## OFFICIAL UK PARTNER



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