## INDU-EYE TERMO BATTERYLESS IOT TEMPERATURE MONITORING

INDU-EYE TERMO is a *batteryless* solution for temperature monitoring. Our device uses long-range wireless protocols, and is particularly designed to be used in hard-to-reach and cost prohibitive environments.

A robust, a reliable and easy-to-install *Predictive Maintenance* system allows you to remotely monitor the health of your machinery or process and predict the most optimal time for maintenance.

#### Keep your plant up

Detect proactively performance issues to reduce unplanned downtime.

#### Waste Heat powered

Batteryless means forgetting expensive battery maintenance and become eco-friendly.

#### Easy installation

*Plug&Play* installation without the need for cables. Long-range wireless protocols (>10km) require very simple infrastructure compared to low-range protocols (WirelessHART, ISA100, commonly used by competitors) that need gateways or repeaters every few meters.

Our products are fully adaptable to any type of surfaces (flat, circular, etc.).

#### Monitoring dashboard

Use our DAEVIS monitoring dashboard tool or any other cloud-based system: Always choose the best settings to make your decisions.

### Flexible and scalable

It does not matter how many Indu-Eye devices you want to install and where, changing and growing your network is very easy!



#### Excellent cost savings

Compared to competitors' wireless solutions (battery-powered), our products reduce the cost of devices, infrastructure, and other recurrent expenses up to 70%. Thanks to the edge-computing capabilities, additional cloud computing cost reductions can be up to 87%.

#### Unbeatable environmental savings

More than 98% of reduction in GHG, energy, heat and water during the lifetime compared to current wireless battery-powered sensors from competitors.

#### Improve your maintenance tasks

Automated routine operations keep maintenance professionals performing high-value tasks.

# INDU-EYE TERMO



### Wireless and Batteryless IoT Temperature Monitoring

#### Description

INDU-EYE TERMO is a system consisting of four main components:

- 1. The industrial temperature sensor (PT100/PT1000) of 2, 3 or 4 wires.
- 2. The wireless IoT device with edge computing and long-range network capabilities.
- 3. A thermoelectric generator, capable of powering the entire system using heat.
- 4. 3<sup>rd</sup> Party LoRaWAN gateway.

INDU-EYE is economical, flexible, scalable and easy to maintain and install, which means that our product is the most competitive solution on the market.

#### AEInnova's main system components

#### NB-IOT / LTE-M network scenario

## THEMOELECTRIC GENERATOR WIRELESS IIOT DEVICE DORAWAN SENSOR CLOUD MONITORING SYSTEM

#### Use cases

Wireless monitoring system for early detection of faults. It permits to diagnose heating and rotating equipment, check the temperature in hazardous parts in a process and test electric motors in the following machines:

- Furnaces, Kilns and boilers.
- Pipeline, steam traps.
- Drum dryers, belt press, centrifuge decanters.
- Pumps, motors, fans, compressors, and turbines.
- Centrifugal separators, blowers, agitators, expenders, and heat exchangers.
- Thermostatic filters.

#### Real use case in an iron&steel facility



## **INDU-EYE TERMO**



### Wireless and Batteryless IoT Temperature Monitoring

#### Mean features

Temperature range	-60°C to +650°C (depends on the model)
Accuracy	According to customer sensor
Measurement temperature deviation	± 0.1ºC to ± 1ºC depending on sensor
Ambient temperature	-20°C to +50°C
Thermoelectric generator exposure	50 ºC to 150ºC
temperatures	Minimum 30ºC above ambient temperature
Communication	LoRaWAN <sup>™</sup> 868MHz at 13,7dBm up to 2.5Km
Data update cycle (sample/hour)	From 1 to 10
Certifications	CE; FCC and ATEX/IECEX ongoing
Mount	Plain or pipe
Sensor type	PT100 and PT1000 with 2, 3 or 4 wires autodetected
Degrees of protection	IP67
Patent	Pending

#### **Dimensions in mm**



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