MOÏZ
Powering Autonomy

HARVESTREE
BATTERYLESS & WIRELESS
DATA ACQUISITION NODE

NO INSTALLATION FEE

Our autonomous sensors can be easily mounted on hot or cold surfaces. The thermal losses from these surfaces power the sensors.

With MOÏZ, you no longer need kilometers of cables and overloaded cable trays!

NO MAINTENANCE

Our sensors are self-powered through a thermal energy harvesting solution and contain no batteries or wires. They are designed to operate maintenance-free throughout their lifetime.

SUSTAINABLE APPROACH

Help conserve natural resources and reduce environmental impact by eliminating the need for lithium battery production, resulting in a more sustainable and eco-friendly solution.
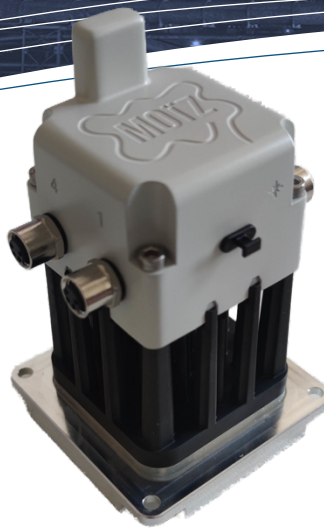
made in France

The Harvestree module is an innovative solution for wireless data acquisition for industrial sites. Its batteryless design and ability to convert heat into electricity make it a highly efficient and sustainable option. With compatibility with various LPWAN technologies and the ability to support multiple sensors, it's a versatile and flexible solution for a large range of applications.

The module's rugged construction and waterproof design ensure reliable operation in harsh environments, without the need for battery replacements or maintenance. All it requires is a temperature difference of around 10°C between the surface on which it's mounted and the ambient air.
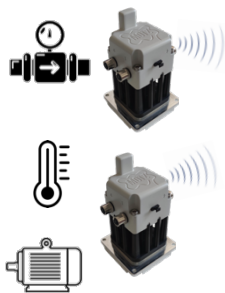
Local Gateway or Network Operator
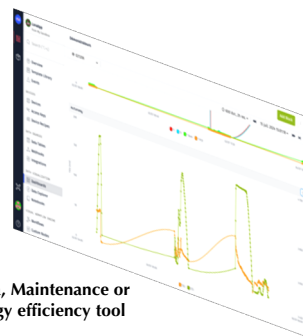
Scada, Maintenance or Energy efficiency tool

APPLICATIONS EXAMPLES

The Harvestree module addresses a wide range of industrial applications, demonstrating a particular suitability for industries such as steel, cement, glass, chemical, agri-food, and pharmaceutical production, as well as railway, smart grid, and rotating machine monitoring. Harvestree provides on-site data that are crucial for implementing process **optimization and energy-saving strategies** for industrial processes, as well as for **equipment maintenance**.
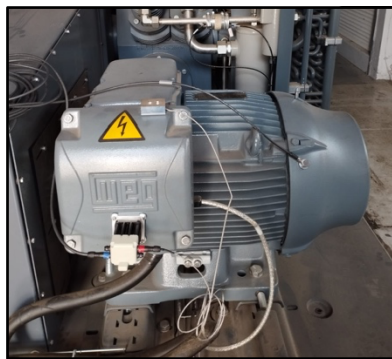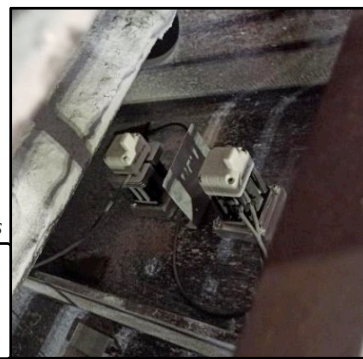
Monitoring machine health with vibrations analysis

PREDICTIVE MAINTENANCE

HIGH-TEMPERATURE PROCESS

Industrial Furnace monitoring

Railway tracks monitoring

RAIL INFRASTRUCTURE

ELECTRIC POWER GRID

Anomaly tracking in electrical transformer

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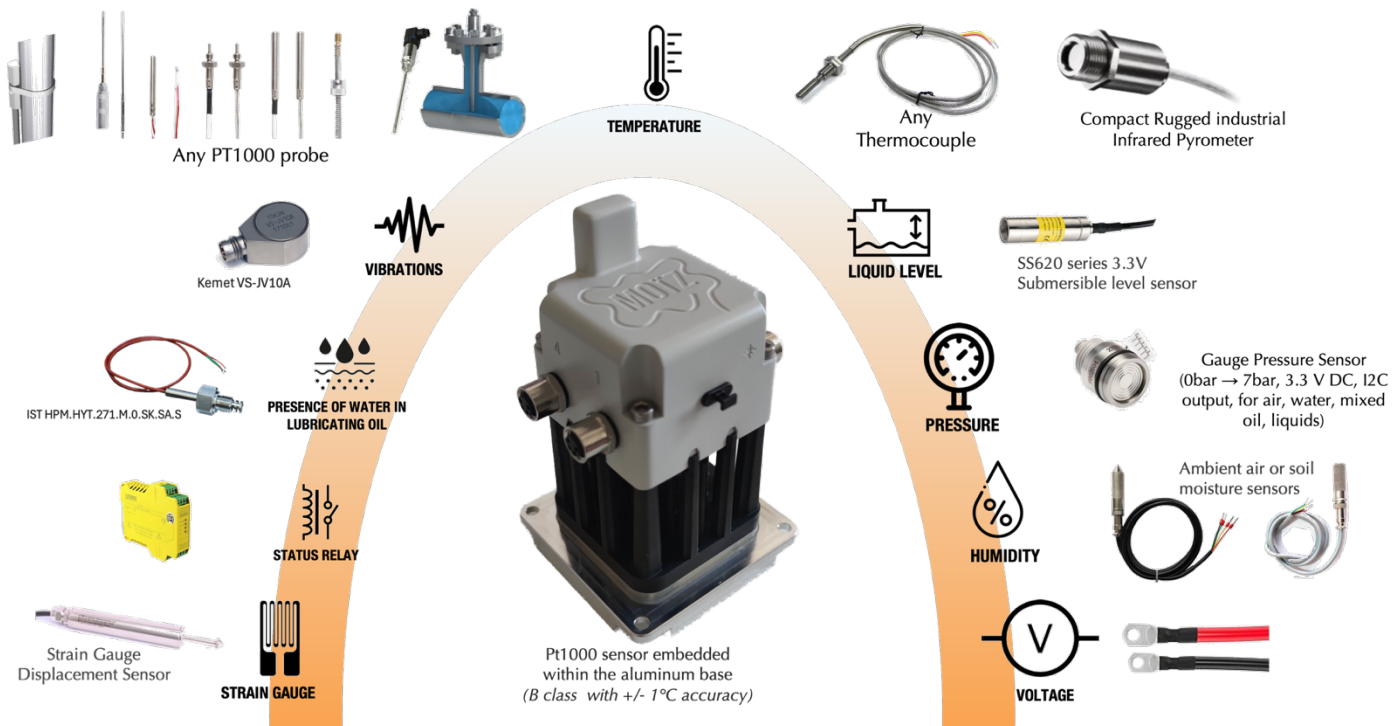| Specifications	Value / Description
Internal sensor	Pt1000 sensor embedded within the aluminum base
External sensor inputs	4 inputs with waterproof M8 connectors
USB-C port	Calibration, reconfiguration & initial charge for immediate use.
Dimensions	67 mm × 67 mm × 105 mm
Weight	300 g
Baseplate operating temperature	−80 °C to 180 °C *The baseplate can withstand and operate at temperatures above 180 °C when an additional insulating layer is used under the base (see catalog).*
Electronics operating temperature	−20 °C to 80 °C *If the baseplate temperature exceeds 120 °C, thermal protection is installed between the electronics and the heatsink.*
Ingress protection (IP rating)	**IP68** *Completely protected against dust and continuous immersion in water*
Mechanical impact protection (IK rating)	**IK07**
Mounting options	Magnets, bonding, screws, or pipe clamps with flanges (see catalog)
Intrinsic safety version *	**ATEX:** Ex II 2 G Ex ib · **IECEx:** Ex ib Gb
Tests performed	Salt spray test (ISO 9227), vibration, thermal cycling
LoRaWAN frequency plans available	EU863-870 (EU) · US902-928 (US) AU915-928 (AU) · IN865-867 (IN)

*Q12026
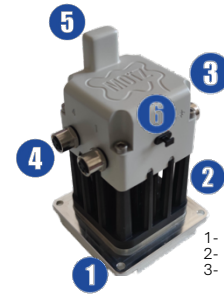
1- Aluminum baseplate for heat recovery
2- Aluminum heatsink
3- Fully potted electronics covered by a reinforced cap
4- M8 Connectors for external sensors
5- Internal radio antenna
6- USB-C port: reconfiguration & initial charge for immediate use.
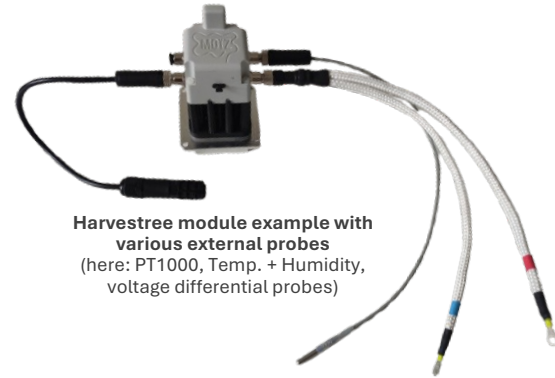
Harvestree module example with various external probes
(here: PT1000, Temp. + Humidity, voltage differential probes)

The Harvestree module is natively compatible with a wide range of industrial sensor types:

Any PT1000 probe

TEMPERATURE

Any Thermocouple

Compact Rugged industrial Infrared Pyrometer

Kemet VS-JV10A

VIBRATIONS

LIQUID LEVEL

SS620 series 3.3V Submersible level sensor

IST HPM.HYT.271.M.0.SK.SA.S

PRESENCE OF WATER IN LUBRICATING OIL

PRESSURE

Gauge Pressure Sensor (0bar → 7bar, 3.3 V DC, I2C output, for air, water, mixed oil, liquids)

STATUS RELAY

HUMIDITY

Ambient air or soil moisture sensors

Strain Gauge Displacement Sensor

STRAIN GAUGE

Pt1000 sensor embedded within the aluminum base
(B class with +/- 1°C accuracy)

VOLTAGE

It can supply up to 3.3 V to external sensors, making it compatible with virtually any physical quantity you may need to monitor and unlocking thousands of possible use cases. Please refer to our catalog of compatible sensors.

Pt1000 temperature probe

Thermocouple temperature probe

−500 mV / 500 mV — Analog signal ranging from −500 mV / +500 mV or positive only from 0 to 3 V

4−20 mA

I2C sensor (temperature, humidity, pressure, moisture... hall-effect... and many more)

Any dry contact input (control of openings, status of equipment or power supply...)

3.3V
3.3 V power supply for each of the 4 sensors