Measurement, monitoring, and metrology

CONNECTED SENSORS FOR A SIMPLE, CONTINUOUS QUALITY CONTROL

Automation | Real-time alerts | Centralized supervision | Compliance with regulations

www.jri-corp.com

Next generation of connected sensors

Our new generation of connected temperature sensors monitors sensitive products stored in fixed and mobile cabinets.

It enables you to meet the requirements of ISO 17025 and ISO EN 15189 standards with reliable and accurate measurements.

La FRENCH FAB

Measuring of various parameters

Temperature, Humidity,
Parcel opening, Delta pressure,
etc...

Real-time Alarms

The sensors have operating and warning **light indicators**.
Alerts are sent by **SMS/text message, e-mail, and voice message** according to your alerts planning.

Easy installation and use

Miniaturized, the sensors can be placed **as close as possible to your products** or wall-fixed with their **integrated magnet**.
They are detected automatically on the JRI MySirius platform.
Color rings allow to quickly determine the configuration of each sensor.

10 000 data points recording

The sensors are equipped with an **internal memory** able to record up to 10 000 data points.

Simplified Metrology

Calibration of the temperature sensor can be performed through **replacement by a newly calibrated one.**

Automated monitoring of fixed and mobile units with performance and adaptability

- Refrigerators, Freezers
- Incubators, Ovens
- Climatic cabinets
- Cryo-preservatives
- Cold rooms
- Warehouses
- Insulated cases
- Refrigerated vehicles

The **Nano *SPY*** range

2.4 GHz High-speed
Mini-sensors

Up to 150 m**

Module
Nano SPY LINK

The **LoRa®*SPY*** range

Wireless sensors connected to the private network

LoRaWAN™

Up to 1 km

Private Gateway

The **LoRa®*SPY*** range

Wireless sensors connected to the public network*

LoRaWAN™

Up to 16 km

Telecom LoRa™ Network

Integration and operational maintenance of Labguard® installations beginning 2021

The Labguard 3D range

Radio transmitters or Ethernet

Labguard® Receptor

Data Hosting and Management on the JRI MySirius Platform

SPY RF Modem

The SPY RF range

868 - 915 MHz recorders used with

Sirius STORAGE

* of a telecom operator member of the LoRa Alliance
**with Nano SPY Alarm relay module

Nano *SPY*

The range of high-speed 2.4 GHz mini wireless sensors

Dimensions : 63x42x25mm

- **Temperature and humidity monitoring**
- **True wireless sensor suitable for the monitoring of units and transport cases**
- **Battery life up to 6 years**
- **Visual alerts via the warning light indicator of the Nano SPY LINK, in case of alarm**
- **Bluetooth communication between the Nano SPY LINK and a smartphone or tablet equipped with the MyNanoView mobile App**
- **Particularly suitable for critical cabinets that require high measurement frequency**

Nano SPY T1

Mini temperature sensor that can be placed directly inside the refrigerator or the freezer (IP 68)

Measurement range: -40°C to +85°C
Accuracy : ±0.4°C from -20°C to +40°C and ±0.5°C out of this range

Nano SPY T2

Mini temperature sensor with external flat probe cable to be placed through the door seal, designed for refrigerators and freezers

Measurement range: -50°C to +105°C
Accuracy:
Standard ±0.3°C from -20°C to +30°C and ±0.5°C out of this range
Incubator ±0.2°C from +30°C to +50°C and ±0.5°C out of this range

Peripherals

Nano SPY LINK

- Transmission module: Data collected by the Nano SPY sensors are transmitted to the JRI MySirius platform via a Wifi or Ethernet network (or BLE).
- The Bluetooth BLE option allows to communicate with a tablet equipped with the MyNanoView app
- Power supply and battery backup

Nano SPY ALARM/ RELAY

- Audio and visual alert module
- Quadruples the communication distance with a Nano SPY LINK and then allows to multiply the radio range between the Nano SPY sensors and a Nano SPY LINK module
- Connects an external monitoring module to the dry contact outlet
- Power supply and battery backup

Nano SPY TH

Mini temperature & humidity (ambient) sensor particularly adapted for HVAC applications

Measurement range: 30°C to +70°C and 0 -100% RH
Accuracy between +15°C and +25°C :
Temperature : ±0.4°C and ±0.5°C out of this range
Humidity from 20% to 80% : ±4% RH and ±5% RH out of this range

Nano SPY T3

Mini extreme temperature sensor that can be placed on the outside of the cabinet thanks to its magnet

Low temperature	High temperature
Measurement range: -200°C to 0°C Accuracy: ±0.2°C from -20°C to 0°C and ±0.5°C out of this range	Measurement range: 0°C to 100°C Accuracy: ±0.3°C from 0°C to +100°C and ±0.5°C out of this range

Reference standard device for calibration of Nano SPY sensors

Nano SPY Reference

Mini temperature sensor with high precision suitable for monitoring equipments with very restricted MPE

Measurement range: -196°C to +200°C
Accuracy: ±0.15°C from 0°C to +40°C
±0.2°C from -30°C to 0°C and from +40°C to +130°C
±0.3°C from +130°C to +200°C
±0.5°C out of this range
±0.6°C at -196°C

Accessories

Protective shell and bracket

Nano SPY Twin

Mini temperature sensor measuring at 2 different points in a cabinet

Measurement range:
Internal probe -40°C to +85°C
External probe -50°C to +105°C
Accuracy:
Internal probe ±0.4°C from -20°C à +40°C and ±0.5°C out of this range
External probe ±0.2°C from +30°C to +50°C and ±0.5°C out of this range

Optional IP67 Universal connector

Nano SPY U

Universal analog input sensor recording data coming from analog probes for monitoring temperature, humidity, CO_2...

Type of input: PT100, 0-20mA / 4-20 mA, 0-1 V, On/Off or counting
Measurement range and Accuracy : depending on the probe model

Nano SPY TH for Industrial Applications

High-accuracy mini sensor for temperature and humidity monitoring.
Suitable for use in harsh environmental conditions.
Records data from an interchangeable probe.

Measurement range: -40°C to 85°C and 0-100% HR

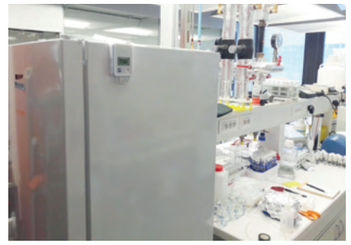
Accuracy: ±0.1°C and ±0.8% RH from 10°C to 30°C
The data from this sensor only relates to measurement accuracy of the sensor (calibration excl.)

Dimensions : 87x64x25mm

LoRa® *SPY*

Wireless long range sensors connected to the LoRaWAN™ network

- **Data transmission via the LoRaWAN™ network :**
  - via the network of a private gateway
  - via the network of a telecom operator member of LoRa Alliance™ (if available)
- **Particularly suitable for monitoring:**
  - Sites with low sensor concentration
  - Storage areas spread on a wide territory
  - A need of real-time* transportation
- **Radio range up to 16 km in open field**
- **Very low power consumption** (battery life up to 2 years)
- **Direct reading on the LCD display**



LoRa® SPY T1

Temperature and parcel opening sensor suitable for transportation/logistics and storage areas monitoring

Measurement range : -30°C to +70°C
Accuracy : ±0.4°C from -20°C to +40°C and ±0.5°C out of this range

LoRa® SPY T2 Standard

Temperature sensor with external flat cable probe to be placed through the door seal, designed for refrigerators and freezers

Measurement range : -50°C to +105°C
Accuracy : ±0.3°C from -20°C to +30°C ±0.5°C out of this range

LoRa® SPY T2 Incubator

Temperature sensor with external flat cable probe to be placed through the door seal, dedicated to incubators

Measurement range : -50°C to +105°C
Accuracy : ±0.2°C from +30°C to +50°C and ±0.5°C out of this range

LoRa® SPY T0

Temperature sensor without display designed for cold chain monitoring during transport

Measurement range : -35°C to +85°C
Accuracy : ±0.5°C from -20°C to +30°C and ±0.8°C out of this range

LoRa® SPY Digital

Sensor with external digital temperature and humidity probe designed to simplify calibration operations by replacing the probe with a newly calibrated one

Measurement range and Accuracy : -200°C to +85°C depending on the JRI digital probe

LoRa® SPY U

Universal analog input sensor recording data coming from analog probes for monitoring temperature, humidity, CO_2, O_2, pressure...

Type of entry : PT100, 4-20 mA/0-20mA, 0-1V, On/Off or counting
Measurement range and Accuracy : depending on the probe model

LoRa® SPY TH

Temperature and humidity sensor suitable for HVAC applications and warehouse storage
Measurement range : -30°C to +70°C and 0 - 100% RH
Accuracy between +15°C and +25°C :
Temperature : ±0.4°C and ±0.5°C out of this range
Humidity from 20% to 80% : ±4% RH and ±5% RH out of this range

Reference device for performing LoRa® SPY sensor calibrations

LoRa® SPY Reference

Temperature sensor with high precision perfectly suitable for monitoring equipments with very restricted MPE

Measurement range : -196°C to +200°C
Accuracy : ±0,12°C from 0 to +50°C
±0,20°C from -30°C to 0°C and from +50°C to +130°C
±0,35°C from +130°C to +200°C
±0,50°C out of these ranges

LoRa® SPY T3

Extreme temperature sensor designed to monitor low temperature freezers

Measurement range: -200°C to 0°C
Accuracy : ±0.2°C from -20°C to 0°C
±0.5°C out of this range

LoRa is short for «Long Range».
It is a technology that allows the Internet of things to transmit small-sized data measurements on a long distance, using a low power consumption.

Accessory

Protection and sealing box

Gateway

Gateway LoRa™ JRI

Allows to set up a private LoRa network for transferring data recorded by the LoRa® SPY sensors to the JRI MySirius platform.
Available in 4G and Ethernet version.

*subject to coverage by the operator network.

A modular and customizable supervision platform

Measurements are automatically uploaded to the secure JRI-MySirius Cloud to be hosted and operated on an user-friendly and intuitive interface.

Application available in

SERVER & CLOUD

modes

Customizable interface
- Different indicators and favorites
- Optional modules adapted to different users' needs: Maintenance, Metrology, Map, Active Directory, etc...

Customizable user profile management
- Unlimited number of users
- Different rights to assign per profile : *Managers, Supervisors, Users, Metrologists, etc.*

Simplified configuration of the sensors

Metrolog Calibration and Mapping Software solutions
are compatible with JRI-MySirius making it easy to carry out your own in-house metrology services and generate metrology reports:
- **Metrolog Calibration Software** enables you to calibrate, verify, and adjust all types of measuring chains.
- With **Metrolog Mapping Software** you can conduct temperature mappings and check thermostatic chambers according to the FDX 15-140 (or IEC 60068-3) standard.

Access to data 24/7
Your data is accessible wherever you are and you can share it with your colleagues over different countries.

Programmed updates to give you more time to prepare your partial qualifications and training of your teams.
(JRI cloud-based version only)

Data integration
in third party software (via web API)

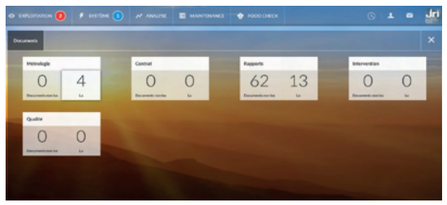
We ensure the protection of the data hosted on the JRI MySirius platform with Microsoft's Azure solution, ISO 27 001 certified and approved for Health data storage.

Microsoft Azure

Wide range of alarm options management
Multi-cascade, report using the snooze key, temporary inhibition...

View in «Map» mode to easily locate all your equipments on a map and obtain information on every monitored units.

Metrology management of your sensor fleet
- Consultation and metrology management of your sensor fleet: calibration, checking, mapping...
- Nano SPY and LoRa SPY sensors can be adjusted in the Maintenance module.



Document space dedicated to metrology reports and all other JRI documents concerning your system.

Mobile Apps to view measurements and manage alerts

ANDROID APP ON Google play

Download on the App Store

MyNanoView

Simple and intuitive screen of measurements data of Nano SPY mini-sensors

- Operation without Internet connection to ensure the monitoring of your site even in case of computer network failure
- Use in remote screen mode to dedicate to a zone or in nomadic mode to perform spot checks

MySiriusAlert

Mobile App for alarm management of Nano SPY and LoRa® SPY connected sensors

- Receive alert notifications
- View and acknowledge current alarms
- Visualization of the measurements of your monitored chambers
- Configure each sensor seperately: Possibility to change settings according to existing templates (thresholds, alarm inhibition ...)

Related Services

Three service levels are proposed to manage the data collected by our connected sensors.
We supply the JRI MySirius solution with a wide range of services performed by our distribution network: installation, commissioning, qualification, training, metrology services, and maintenance operations.

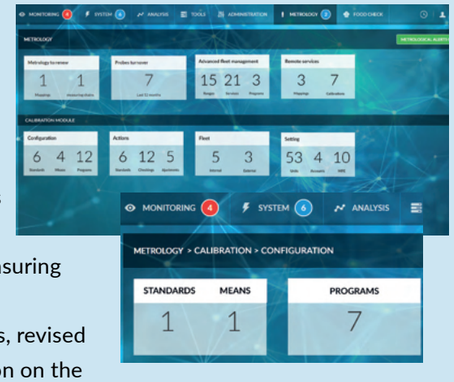
Subscriptions

		INITIAL	SERENITY	ADVANCED
SERVICES	**Data reading (maximum)** measurements, graphs, history	The last 2 months	The last 18 months	The last 18 months
	Data archives Data reading period included	The last 12 months	The last 3 years	The last 10 years
	Technical support Online help, tutorial	✓	✓	✓
FEATURES	**Number of user accounts**	2 (1 user and 1 administrator)	Unlimited	Unlimited with customizable profiles
	21 CFR Part 11 Compliance	-	-	✓
	Audit trail	-	Alarm audit trail	Full audit trail
	Core Temperature Simulation	-	✓	✓
	Metrology Fleet view and management	-	✓	✓
	Adjustment	✓	✓	✓
	Documents Reports, metrology documents	✓	✓	✓
	Update delay	-	-	✓
OPTIONAL MODULES	**Connectivity module (Web API)**	✓	✓	✓
	MySiriusAlert	✓	✓	✓
	MyFoodCheck	✓	✓	✓
	Advanced Maintenance	✓	✓	✓
	Maps	-	✓	✓
	SSO (Single Sign-On) Cloud Subscription	-	✓	✓

Metrology

The Calibration Module

The Calibration Module of the JRI-MySirius solution is compatible with the connected Nano SPY and LoRa SPY sensors, as well as with JRI digital probes and Labguard 3D probes. It enables you to automate metrology operations (calibration, checking, adjustment):



- Performing several calibrations simultaneously
- Calibration and adjustment of the sensors at multiple points
- Drift analysis between two calibration campaigns to optimize the calibration frequency
- Specification optimization using templates
- Piloting of JRI digital multi-sensor bench for calibrations and adjustments
- Piloting of calibration baths
- Management of your calibration certificates (management of all your measuring chains and monitored units)
- Automatic synchronisation of the pre-defined values (errors, uncertainties, revised specifications, dates, compliance, ...) with data resulting from the calibration on the JRI-MySirius operating software.

Our Metrology Services

Our in-house metrology laboratory is ISO 17025 (Cofrac) accredited in temperature for :

- calibration and checking in temperature from -80°C to +200°C and at -196°C in the laboratory, and from -90°C to +140°C on site (accreditation N°2.1943 -range available on www.cofrac.fr)

- mapping and checking according to the FD X 15140, NF EN 60068 and FDV 08 601 standards of the thermostatic chambers in the temperature range from -196°C to +140°C and water baths in the temperature range from -90°C to +140°C (accreditation N°1.2471- range available at www.cofrac.fr)

Maintenance

Our maintenance contracts provide the necessary interventions to maintain your installation in operational conditions and are carried out by our team of experienced distributors :

- Technical hotline access
- Extension of garantee on hardware and software
- Remote maintenance of your application
- On-site maintenance and support

Trainings

The JRI Academy performs training sessions for all levels : monitoring systems, metrology and skills transfer.

Play the JRI MySirius solution video !

Follow us

YouTube

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A company of the MMS Metrology & Monitoring Solutions Group

Our partnerships

LoRa Alliance Member

Microsoft Partner Silver Edition de logiciel