

SPY RF®



WIRELESS SYSTEMS



MONITORING AND DATA STORAGE



Monitoring is our priority

JRI has developed a wireless monitoring system which is adaptable and user friendly. Its aim is to maximise security and save time. This global monitoring system SPY RF® meets perfectly the requirements of current regulations (HACCP, COFRAC and EU equivalents, ISO, GLP, GMP...) and quality control programs.

Today JRI provides all the components of an efficient monitoring system: on site radio communication survey, metrology, radio communication, hot line, software and maintenance contracts. Easy to use and delivering reliable results, the SPY RF® system also offers automatic surveillance of your laboratory or production plant.

Some of our users...



St André Les Lille Central Kitchen

Application: monitoring of ambient conditions and temperature in cold rooms freezers.

Food

Kitchen

- > St André Les Lille Central kitchen
- > St Malo Police school
- > Louvres Hotels (Le Ritz, Ambassador, Hôtel du Louvre, Concorde Montparnasse Concorde St Lazare, Lutetia, Concorde Lafayette)
- > Charles Perrens Hospital
- > Crous of Rennes (Student service)
- > Mc Donalds
- > Total service stations
- > HRC Restaurant "l'Arche" (Elior Group)
- > Européenne de confiserie
- > Gelati Royal (Italy)
- > Gialdini & Picchi (Italy)
- > Italiascar (Spain)
- > Rayner Marchetti, Caterer

Supermarkets/dealers

- > Total Argedis
- > Locaservice
- > Leclerc Supermarkets Industry

Industries

- > Delpierre Mer et Tradition
- > Milhaud Salting
- > Berthillon Ice Cream
- > Condat Paper mill
- > CBV delicatessen
- > CocaCola (Italy)
- > Nestlé (Middle East)



Total Argedis

Application: surveillance of chilled cabinets, cold rooms and ice boxes in gas station.



Delpierre Mer et Tradition

Application: temperature and humidity monitoring in production areas.



AP-HP

Application: chambers surveillance in biology technical platforms.

Health

Blood Transfusion Centers and Blood Banks

- > Regional Blood Bank P.A.C.A.
- > Regional Blood Bank Normandie
- > Regional Blood Bank Pyrénées Méditerranée
- > Blood Bank of Aragon (Spain)
- > Blood Bank of Catalonia (Spain)
- > Pula Hospital - Blood Bank (Croatia)
- > Sarajevo Central Blood Bank (Bosnia)

Public Institutions

- > Abu Dhabi Police-Forensic Laboratory (United Arab Emirates)
- > Food laboratory of Zaragaza (Spain)
- > IRCCS for Oncology Research (Italy)
- > AZ Groeninge (Belgium)
- > Boeringer Ingelheim (Portugal)

Hospitals

- > University Hospital of Lille
- > AP-HP (First group of public hospital in Europe)
- > University Hospital of Mulhouse
- > University Hospital of Nîmes
- > King Fahad Medical City (Riyadh)
- > Public Health Laboratory of Madrid (Spain)
- > Riberão Hospital in São Paulo (Brazil)
- > A2 (Belgium)
- > Group of Hospitals in Lyon

Logistics platforms

- > Cenexi
- > Alliance Healthcare
- > Pharmalog
- > Cerp - Pharmaceutical distribution (multisite)
- > Stef - Cold logistics (multisite)

Industry

- > Serolab (Switzerland)
- > DMS Farmaceutici Spa (Italy)
- > ABBOTT (Spain)
- > Aventis Pharma (Germany)



Alliance Healthcare

Application: surveillance of temperature sensitive products in storage areas.

MEASURES
RECORDS
COMMUNICATES
STORES
WARNS
(REAL TIME ALARM)

...And hundreds of working SPY RF® systems all over the world. Ask us for local distributor details.



Museum of Vire

Application: temperature and humidity recording for preservation of artwork.

Museums / Archives

- > Galleria Degli Uffizi (Italy)
- > Carnavalet Museum of Nice
- > Paris National School of Beaux-Arts
- > Marc Chagall national Museum
- > Museum of Vire
- > Fernand Léger Museum
- > Perfume museum in Grasse
- > Archaeological Museum (Belgium)

Industry

- > EDF
- > Siemens Automotive
- > Virbac
- > Procter & Gamble (Romania and France)
- > Microsoft (Romania)
- > Frezenius (Portugal, Germany)



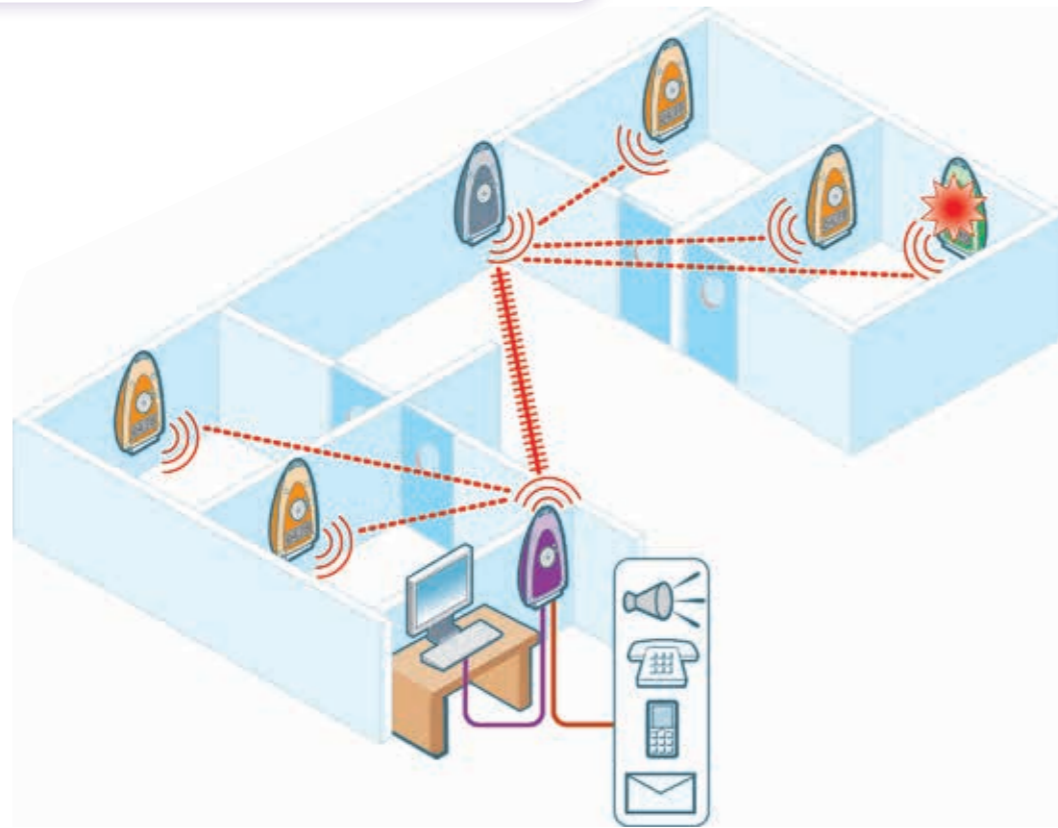
Transports Antoine Group

Application: cold chain monitoring during transport.

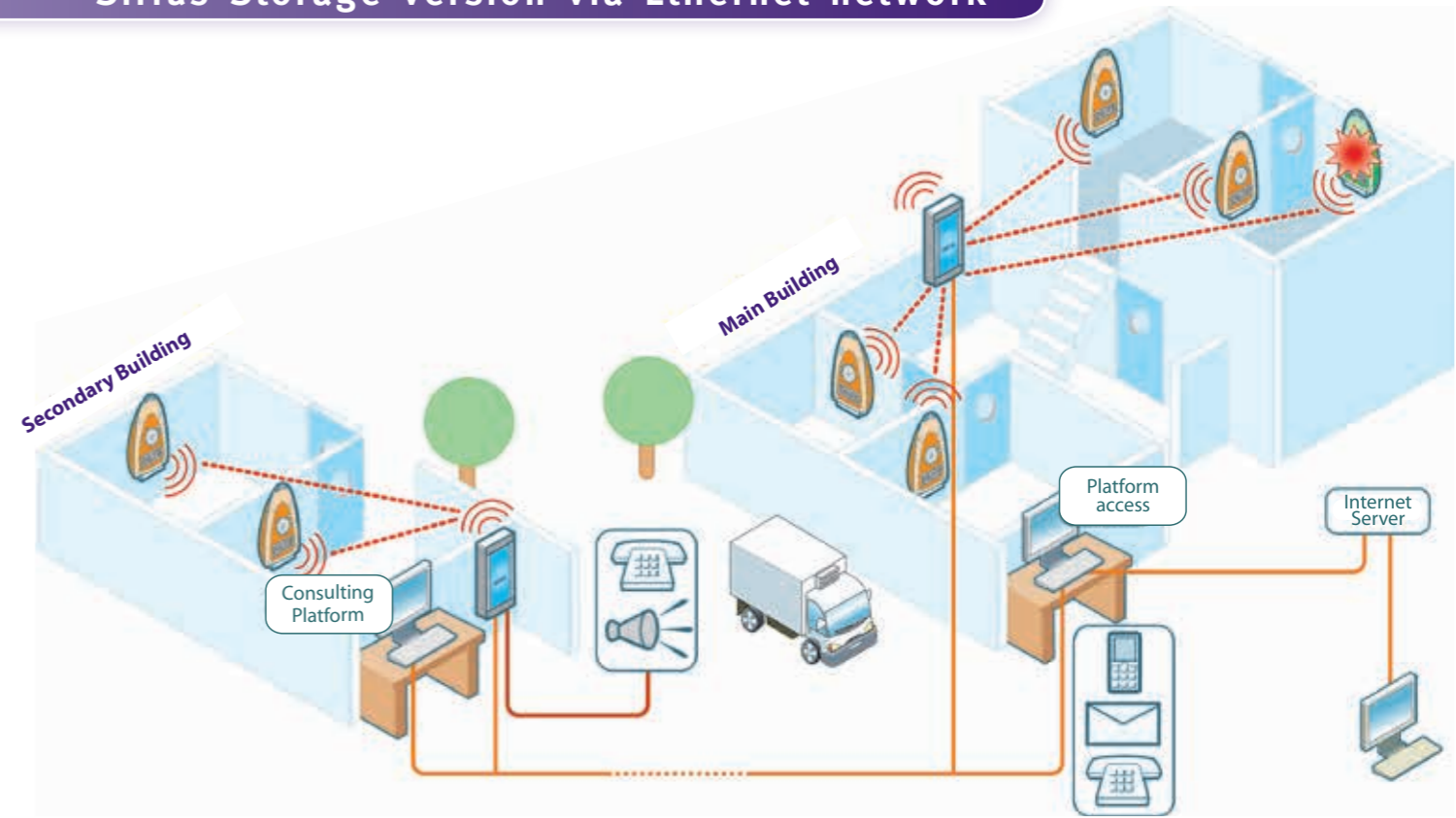
Transport under monitored temperature

- > Transports Antoine Group
- > Logidis
- > Geodis Logistics Ile de France
- > Flash Europe
- > TSE
- > Agility Logistic (United Arab Emirates)
- > World Courier (Germany)

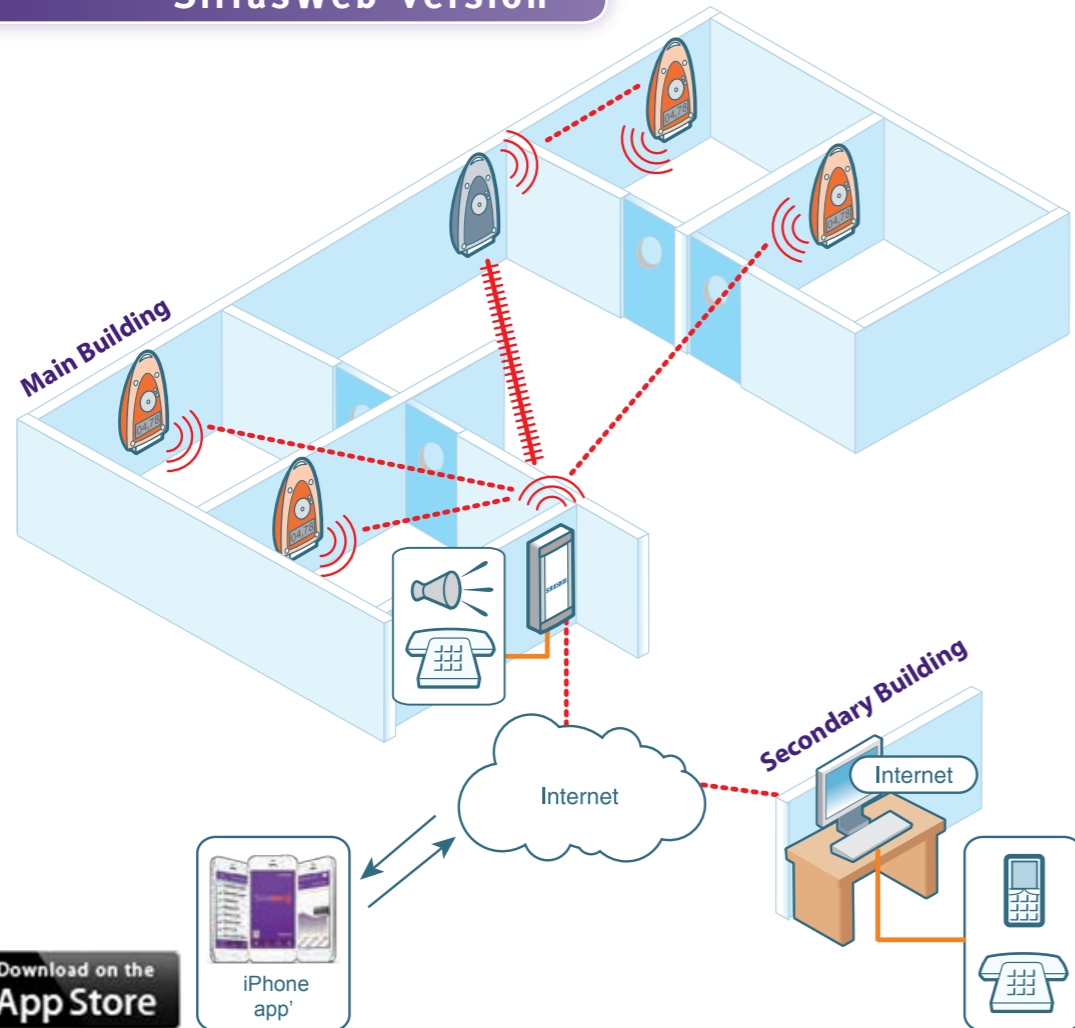
Sirius Lite version



Sirius Storage version via Ethernet network

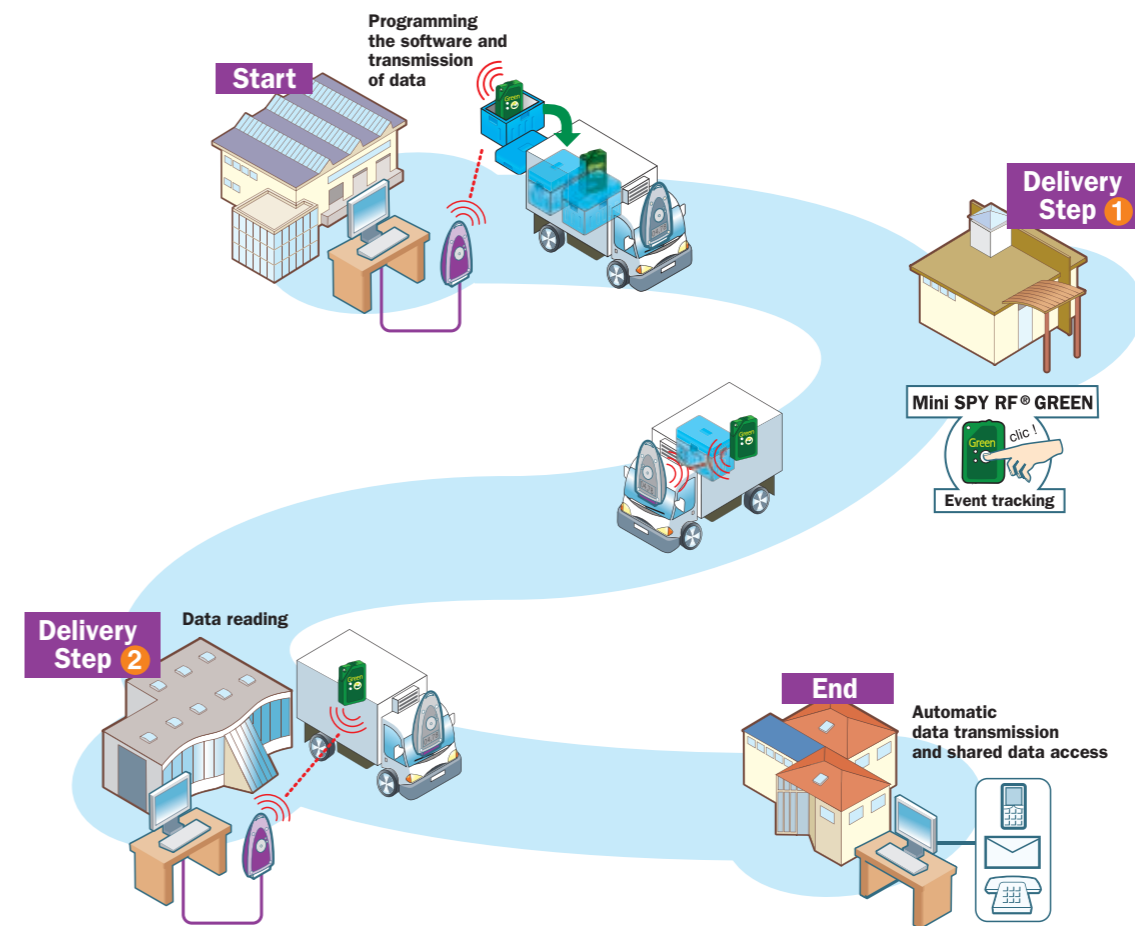


SiriusWeb version



Sirius Transport version with Mini SPY RF®

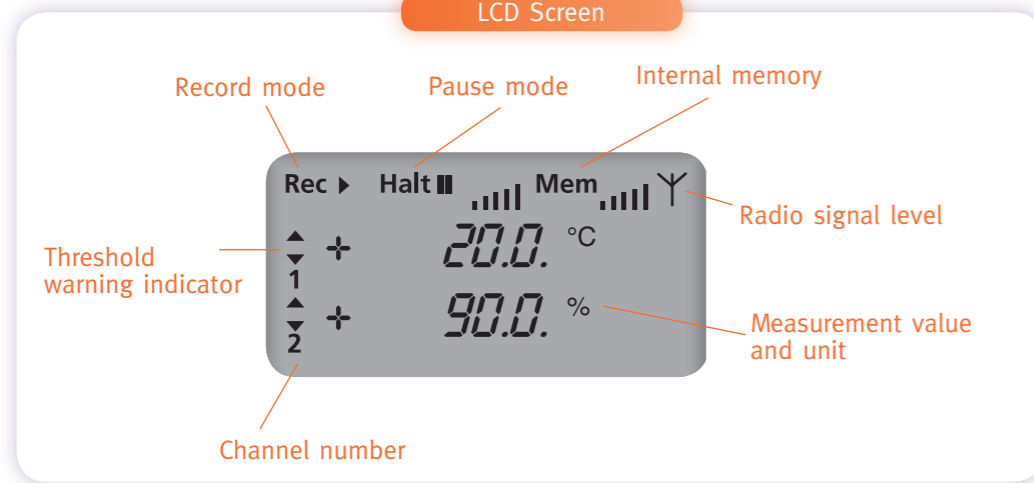
Version available with all recorders included in the SPY RF® range



Legend

- SPY RF®
- SPY RF® Relay
- SPY RF® Visu
- SPY RF® ModeM
- SPY RF® Alarm
- SPY RF® Ethernet ModeM
- Mini SPY RF® GREEN
- SiriusBox
- Ethernet Network
- USB Cable
- Radio communication (200 - 300 m)
- Radio communication (800 - 1000 m)
- SMS text msg / MMS alert
- E-mail alert
- Visual and Audible Alert
- Telephone Alert





SPY RF® RANGE IS ALSO AVAILABLE IN °F

Coolers, refrigerators and freezers (fixed cooling system)



Recommended Solutions

- > SPY RF® T+
- > Mini SPY RF® Green
- > SPY RF N with flat cable probe

The expert point of view

- > Easy to install.
- > Cost saving temperature monitoring solution.

CO2 and temperature incubators



Recommended Solutions

- > SPY RF® U2 with Pt100, (A grade) probe paired and CO2 high accuracy sensor.

The expert point of view

- > Ask for a ISO 17025 calibration certificate at 36, 38 and 45°C for a maximal accuracy of 0,2°C.

Refrigerators, freezers and incubators from -50 to +125°C



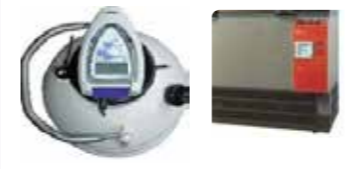
Recommended Solutions

- > SPY RF® U with Pt100 probe (flat cable) and door contact sensor.
- > SPY RF® ReferencE with Pt100 probe (flat cable).
- > SPY RF® N with digital probe (short + extension) and door contact sensor.

The expert point of view

- > SPY RF® U : The flat cable probe can be placed between door seals when cabinets are not equipped with access port.
- > SPY RF® ReferencE : To get high accuracy measurements for specific cabinets.
- > SPY RF® N : To easily perform maintenance operations, thanks to digital probes replacement.

Ultra low freezers (-80°C or -196°C) or LN2 tanks



Recommended Solutions

- > SPY RF® U with cryogenic Pt100 probe.

The expert point of view

- > In some tanks, it is also possible to measure liquid nitrogen level.

Climatic chambers (temperature and humidity)



Recommended Solutions

- > SPY RF® N with TH digital probe.

The expert point of view

- > Maintenance and installation operations are easier as no power supply is needed and TH digital sensors are interchangeable.

Cold chambers



Recommended Solutions

- > SPY RF® U with a 15m Pt100 probe and door contact sensor.
- > SPY RF® N with a 12m cable and its digital replaceable probe (IP67).

The expert point of view

- > Thanks to the cable length, you can place the probe in the most accurate area of the cold chamber and avoid alarms when the door is opened.
- > Thanks to a door contact sensor, an alarm is launched before temperature is rising.

SPY RF® RECORDERS



1 SPY RF® T+
Ambient temperature recorder with protruding probe.

Key features

- > Has a temperature protruding probe for a faster response time.
- > High color for easy location.
- > Splashproof and contaminationproof.



2 SPY RF® TH
Ambient temperature and relative humidity recorder.

Key features

- > Fast response time during measurement variations.
- > The probe has an integrated protection.
- > Replaceable battery.



5 SPY RF® N
Digital recorder (T° / RH / contact).

Key features

- > Probes are interchangeable for easy maintenance.
- > Suitable for dry contact inputs.
- > Allows recording to start when a specific event occurs.
- > Possibility to have different types of input on the 2-channel model (digital or electrical).



6 SPY RF® Santé
Dedicated range for pharmacy and medical biology developed in collaboration with the experts of Paris Hospitals Trust ("AP-HP", 28 sites) based on SPY RF® U or N.

Key features

- > Possibility to monitor the hottest and coldest spots of your chamber (using the 2-channel SPY RF® Santé recorder)
- > High accuracy in the range +2 to +8°C.
- > Supplied with COFRAC* calibration certificates (*equivalent to EU standards).



3 SPY RF® AIR
Ambient temperature and relative humidity recorder.

Key features

- > Fast response time during measurement variations.
- > Replaceable battery.
- > Sober design.

DEDICATED for MUSEUM



4 SPY RF® U
Universal recorder.

Key features

- > Compatible with most probes and sensors : Pt 100, Pt 1000, 4-20mA, 0-1 V, contact.
- > Monitors all types of temperature-controlled equipment (-200°C to +400°C) and many others parameters like ΔP, CO₂, O₂,...
- > Allows recording to start when specific events occur.
- > Possibility to have different types of input in 2-channel model (analog or electrical).



7 SPY RF® TC
Temperature recorder for Thermocouple K probes.

Key features

- > Compatible with all types of thermocouple K probes.
- > Compatible with Hygitherm probe, specially designed for pipes.



8 SPY RF® C
Recorder for countable events.

Key features

- > Compatible with most pulse sensors.



9 SPY RF® ReferenceE
High accuracy.

Key features

- > Resolution of 0,01°C.
- > Available in 1 or 2 channel(s).
- > Available with or without probe.
- > With an accuracy of ±0.09°C this is the tool for metrology operations or incubators surveillance.

Did you know ?
JRI can provide COFRAC calibration certificates for its whole range of recorders.

TECHNICAL FEATURES OF SPY RF® RECORDERS									
	1 SPY RF® T+	2 SPY RF® TH	3 SPY RF® Air	4 SPY RF® U	5 SPY RF® N	6 SPY RF® Santé	7 SPY RF® TC	8 SPY RF® C	9 SPY RF® ReferenceE
Measurement range	From -30°C to +70°C	From -30°C to +70°C from 0 to 100% RH non condensing	From -30°C to +70°C from 0 to 100% RH non condensing	From -200°C to +400°C / 4-20mA / 0-1V / dry contact	T: -40°C to +80°C / TH: -30°C to +70°C from 0 to 100% RH non condensing	SPY RF® Santé N T: from -40°C to +80°C SPY RF® Santé U T: from -50°C to +180°C	Depending on the probe from -100°C to +1300°C	From 0 to 200Hz	-50°C to +125°C or -200 to +270°C
Channel number	1 internal	2	2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2	1 or 2
Resolution	0,1°C	0,1°C	0,1°C	0,1°C	0,1°C	0,1°C	0,1°C	1	0,01°C
Operating conditions	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C	From -30°C to +70°C
Power supply	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery	Lithium battery
Battery lifetime*	4 years - Not replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable	2 years - Replaceable
Type of input	Protruding (temperature PTC)	Internal (temperature and relative humidity)	Internal (temperature and relative humidity)	External (Pt 100/Pt 1000/4-20mA/0-20mA/0-1V/dry contact)	External (temperature, relative humidity and dry contact)	External (temperature)	External (thermocouple K)	External (pulses)	External (Pt100)
Recording interval	30 seconds to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	1 second to 90 minutes	2 seconds to 90 minutes
Internal memory	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements	20 000 measurements
Radio range	300 m	300 m	300 m	300 m	300 m	300 m	300 m	300 m	300 m
Radio band	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM	868 Mhz or 902 Mhz ISM
Power	25 mW	25 mW	25 mW	25 mW	25 mW	25 mW	25 mW	25 mW	25 mW
Digital display	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Dimensions (HxWxD)	123x69x30 mm	123x69x35 mm	222x65x30 mm	123x69x35 mm	123x69x35 mm	123x69x35 mm	123x69x35 mm	123x69x35 mm	123x69x35 mm
Protection index	IP68	IP34	IP34	IP65	IP65	IP65	IP65	IP65	IP65
Conformities	EN 12830, ROHS, CE, FCC, ETS 300-220	ROHS, CE, FCC, ETS 300-220	ROHS, CE, FCC, ETS 300-220	EN 12830, ROHS, CE, FCC, ETS 300-220	EN 12830, ROHS, CE, FCC, ETS 300-220	EN 12830, ROHS, CE, ETS 300-220	ROHS, CE, FCC, ETS 300-220	ROHS, CE, ETS 300-220	ROHS, CE, FCC, ETS 300-220
Included	User manual	User manual, wall-mounting bracket	User manual, wall-mounting bracket	User manual, wall-mounting bracket and cable input protection	User manual, wall-mounting bracket and cable input protection	User manual, wall-mounting bracket, cable input protection, 3 points COFRAC calibration certificate (-18, +2, +8°C), temperature probe supplied with 3m cable	User manual, wall-mounting bracket and cable input protection	User manual, wall-mounting bracket and cable input protection	User manual, wall-mounting bracket and cable input protection
Part numbers	868 Mhz: 06166 902 Mhz: 09571	868 Mhz: 06167 902 Mhz: 09572	868 Mhz: 10075 902 Mhz: 10271	868 Mhz: U1 without probe: 06168 U2 without probe: 06169 U1 + Pt100 probe: 09815 U2 + Pt100 probes: 09816 902 Mhz: U1 without probe: 09573 U2 without probe: 09574 U1 + Pt100 probe: 09817 U2 + Pt100 probes: 09818	868 Mhz: N1: 06428 N2: 06429 902 Mhz: N1: 09578 N2: 09579	868 Mhz: U1: 08634 U2: 08635 N1: 08636 N2: 08637	868 Mhz: TC1: 06170 TC2: 09575 902 Mhz: TC2: 06171 TC2: 09576	868 Mhz: C1: 06426 C2: 06427	868 Mhz: 09883 1 ch. + Pt100 probe: 09509 2 channels: 09887 2 ch. + Pt100 probes: 09889 902 Mhz: 09884 1 ch. + Pt100 probe: 09582 2 channels: 09888 2 ch. + Pt100 probe: 09890

* Depending on conditions of use.



Mini SPY RF® Green

Eco-friendly temperature recorder.

Key features

- > 100% recyclable.
- > Washable and robust.
- > Remote configuration and data reading.
- > Visual alarms: Leds.

Did you know?

Mini SPY RF® Green
Is the first eco-friendly
recorder
Made of 100%
recyclable
components.



TECHNICAL FEATURES	
Measurement range	From -40°C to +85°C
Channel number	1
Resolution	0,1
Operating conditions	From -40°C to +85°C
Power supply	Lithium battery
Battery lifetime*	2 years - replaceable
Type of input	Internal (temperature)
Recording interval	1 second to 90 minutes
Internal memory	20 000 measurements
Radio range	58 m
Radio band	868 Mhz or 902 Mhz ISM
Power	25 mW
Digital display	No
Dimensions (HxWxD)	85x55x18mm
Protection index	IP67
Conformities	EN 12830, CE, ROHS, ETS 300-220
Included	User manual
Part numbers	868 Mhz: 09980 (x1) 09985 (x10) 902 Mhz: 10255 (x1) 10258 (x10)

SPY Touch®

1 and 2 channels recorder communicating with a USB Flash drive.

Key features

- > Multicolour and backlit touch sensitive screen.
- > Programming and checking data directly on the touch sensitive screen.
- > Download of data with USB flash drive.
- > 40000 measurements per channel.
- > Compatible with Sirius Lite 2.0 software.



TECHNICAL FEATURES			
Products	SPY Touch' U® without probe	SPY Touch' U® with probe	SPY Touch' N® without probe
Measurement range	From -196°C to +184°C	From -50°C to +105°C	T : from -40°C to +80°C and TH : from -40°C to +80°C and 0 to 100% RH
Resolution	0.1°C		
Operating conditions	From +5°C to +50°C		
Type of input	Pt 100 and dry contact	Coupled and pre configured Pt 100 (flat cable) and dry contact	2 digital channels (T, RH, Dry contact)
Type of output	1 dry contact		
Power supply	220 - 250 VAC		
Battery lifetime*	Standard battery (50 hours), lithium battery (100 hours)		
Recording interval	10 seconds to 120 minutes		
Internal memory	40 000 measurements per channel		
Alarm	Visual, audible and relay output		
Digital display	Yes (touch sensitive screen and multi colours)		
Dimensions (HxWxD)	161x84x60 mm		
Weight	480 g		
Protection index	IP20		
Conformities	EN12830, CE, ROHS		
Included	User manual and programming and operating software		
Part numbers	09961	09962	09965

Several screen colours for a clear display of the status.



Temperature mapping and validation of temperature controlled chambers

Compliant with the NFX 15-140 norm.



TECHNICAL FEATURES		
Kit	9 points <2 m3 (SPY RF® U)	9 points <2 m3 (SPY RF® ReferencE)
Measurement range	From -200°C to +260°C	
Basic Kit	1 transportable case, 1 SPY RF® USB ModeM, Metrolog temperature mapping software	
Kit specifications	- 5 SPY RF® U2. - 9 Pt 100 probes, Ø2.9 x 20 mm with a 6 m cable. - 1 Pt 100 probe, Ø2.9 x 20 mm with a 50 cm cable.	- 5 SPY RF® ReferencE 2 channels. - 9 Pt 100 probes, Ø2.9 x 20 mm with a 6 m cable. - 1 Pt 100 probe, Ø2.9 x 20 mm with a 50 cm cable
Measurement Accuracy	±0,2°C from -20°C to +50°C	±0,09°C from -20°C to +50°C
Options	Ultra compact PC "netbook" type, calibration certificate	
Part numbers	09881	09898

> For temperature mappings in 15 points or more: Please complete the basic kit with the requested number of SPY RF U1 or SPY RF ReferencE and adequate probes.

ACCURACY CHARACTER							
Designation	REF 868 Mhz	REF 902 Mhz	Operating range	Measuring range	Accuracy	Temperature values used for a standard calibration certificate	Temperature values used for a gauging certificate
SPY RF® Air	10075	10271	-30 to +70°C	-30 to +70°C 0 to 100% RH	T°C : ±0,4°C from -20 to +30°C and ±0,5°C out of this range RH : ±2% to 23°C from 10 to 90% RH and ±3,5% out of this range**	T°C: + 2°C ; +22°C ; +38°C RH : 20%, 50%, 80% à 23°C	
SPY RF® T+	06166	09571	-30 to +70°C	-30 to +70°C	±0,4°C from -20 to +30°C ±0,5°C out of this range	-18°C, +6°C, +22°C	-20°C, 0°C, +40°C
Mini SPY RF® Green	09980 (x1) 09985 (x10)	10255 (x1) 10258 (x10)	-40 to +85°C	-40 to +85°C	±0,4°C from -20 to +30°C ±0,5°C from -40 to -20°C and from +30 to +80°C ±0,7°C above +80°C	-18°C, +6°C, +22°C	-20°C, 0°C, +40°C
SPY RF® TH	06167	09572	-30 to +70°C	-30 to +70°C 0 to 100% RH	T°C : ±0,4°C from -20 to +30°C and ±0,5°C out of this range RH : ±2% to 23°C from 10 to 90% RH and ±3,5% out of this range**	T°C: + 2°C ; +22°C ; +38°C RH : 20%, 50%, 80% to 23°C	
SPY RF® U1/U2 with Pt 100 probe	09815 (1 Ch) 09816 (2 Ch)	09817 (1 Ch) 09818 (2 Ch)	-30 to +70°C	-50 to +125°C	±0,2°C from -20 to +50°C ±0,5°C out of this range	-18°C, +6°C, +45°C	-20°C, 0°C, +20°C, +50°C
SPY RF® U1/U2 without probe	06168 (1 Ch) 06169 (2 Ch)	09573 (1 Ch) 09574 (2 Ch)	-30 to +70°C	-200 to +400°C	±0,3°C on this range (+probe's MPE)	NC	-42°C, +69°C, +118°C
SPY RF® ReferencE with Pt 100 probe	09509 (1 Ch) 09889 (2 Ch)	09582 (1 Ch) 09890 (2 Ch)	-30 to +70°C	-50 to +125°C	±0,09°C from -20 to +50°C ±0,2°C from -50 to -20°C ±0,12°C from +50 to +125°C	-18°C, +6°C, +45°C	-20°C, 0°C, +10°C, +20°C, +40°C, +60°C
SPY RF® ReferencE without Pt 100 probe	09883 (1 Ch) 09887 (2 Ch)	09884 (1 Ch) 09888 (2 Ch)	-30 to +70°C	-200 to +270°C	±0,05°C from -50 to +50°C (+probe's MPE) ±0,1°C out of this range (+probe's MPE)	NC	7 points (on the whole range)
SPY RF® TC	06170 (1 Ch) 06171 (2 Ch)	09575 (1 Ch) 09576 (2 Ch)	-30 to +70°C	-100 to +1300°C	±1°C (+probe's MPE) or 0.5% of measured value	NC	8 points (on the whole range)
SPY Touch' U without probe	09961		+5°C to +40°C	-196 to +184°C	±0,2°C on this range (+probe's MPE)	NC	-42°C, +69°C, +117°C
SPY Touch' U with probe	09962		+5°C to +40°C	-50 to +105°C	±0,3°C from -20 to +50°C ±0,5°C out of this range	-18°C, +6°C, +45°C	-20°C, 0°C, +20°C, +50°C
Digital T probe SPY RF® N & SPY Touch' N	06556 08872 10560		-40 to +80°C	-40 to +80°C	±0,3°C from -20 to +30°C ±0,5°C out of this range ±0,2°C from +35 to +46°C	-18°C, +6°C, +22°C	-20°C, +75°C, +30°C, +50°C
Digital T probe SPY RF® N & SPY Touch' N for incubator	06556-i 08872-i 10560-i		+35 à +46°C	+35 à +46°C	±0,2°C de +35 à +46°C	+36°C, +38°C, +45°C	+30°C, +50°C
Digital TH probe	09471	09501	-40 to +80°C	-40 to +80°C and 0 to 100%RH	±0,3°C from -20 to +30°C and ±0,5°C out of this range ±2% RH from 0 to 90% RH et 3% from 90 to 100% RH (with probe)	NC	NC

NC : Not Communicated.

*Accuracy is set in laboratories conditions and valid in these using conditions. **Factory gauging uncertainty.

Radiocommunication devices



SPY RF® Modem

Connected to your PC, it enables communication with SPY RF® recorders.

> Communicates with an unlimited number of recorders.

Part numbers:

868 Mhz USB: (European power supply): 06337
(British power supply): 10051
868 Mhz RS232: (European power supply): 06214
(British power supply): 10047
902 Mhz USB: (South American power supply): 09584
(North American power supply): 10056



SPY RF® Modem Wifi

Uses Wifi access points to communicate with the server PC and radio frequency to communicate with the recorders.

Part numbers:

868 Mhz: (European power supply): 10390
(British power supply): 10391
902 Mhz: (South American power supply): 10405
(North American power supply): 10406



ModeM Ethernet POE / VDC*

Enables Ethernet connection to maximize distances between recorders and PC server.

Part numbers:

868 Mhz VDC: (European power supply): 08913
(British power supply): 10053
902 Mhz VDC: (South American power supply): 09586
(North American power supply): 10058
868 Mhz POE: (British and European power supply): 08917
(North and South American power supply): 09587

* POE : Power Over Ethernet
* VDC : Main power supply required 9VDC



SPY RF® Modem Bluetooth

Uses Bluetooth communication with the server PC or (range 15m) and radio communication with SPY RF recorders.

Part numbers:

868 Mhz: (European power supply): 10096
(British power supply): 10097
902 Mhz: (South American power supply): 10098
(North American power supply): 10099

Key features :

- > Remote alarm driven by integrated dry contact output (vocal telephonic transmitter, buzzer, light).
- > Software, PC or power supply failure alarm.
- > Short distance (25mW) and long distance (500mW via a SPY RF RelaY) communication.
- > Works with an external power supply.

Did you know ?

JRI has developed a device to enable on-site radio communication survey, the SPY RF® TesT



SPY RF® Relay

Enables direct RF communication to maximize distances between recorders and PC server.

Key features

- > Works with external power supply and supplied with a rechargeable battery.
- > Includes two power ranges: 25 mW to communicate with recorders and 500 mW to communicate with Modem.

Part numbers:

868 Mhz: (European power supply): 06215
(British power supply): 10049
902 Mhz: (South American power supply): 09583
(North American power supply): 10055



SiriusBox

Data transfer box to the Internet SiriusWeb platform.

Key features

- > Manages up to 20 measuring channels.
- > Includes a sound alarm.
- > Uses radio communication with SPY RF recorders and GPRS communication with the Internet platform.

Part numbers:

868 Mhz: (European power supply with integrated sim card): 08870
(European power supply without sim card): 10025
(British power supply without sim card): 10026
902 Mhz: (North American power supply): 10620



Accessories



Rubber protector

Part number: 06220



Wall mounting bracket (x5)

Part number: 06222



Spacer bracket

To remove the device from the wall and enhance communication.

Part number: 08708



Replacement battery pack

- > SPY RF battery replacing pack (batteries + seals x 10)
Part number: 06569
- > SPY RF Green battery replacing pack (batteries + seals x 10)
Part number: 10102
- > Plate of 180 batteries for SPY RF
Part number: 10911
- > Plate of 180 batteries for SPY RF Green
Part number: 10912



Outdoor shelter for SPY RF® TH

Part number: 09643



IP66 hinge box for SPY RF® (can be open)

- > For SPY RF® with hinges
Part number: 09937
- > For SPY Touch'
Part number: 10303

Alarm devices



SPY RF® AlarM

Real time warning if a problem occurs.

Key features

- > Local warning.
- > Integrated sound and visual alarm.
- > Works with an external power supply and supplied with a backup battery.
- > Push button for local alarm acknowledgement.
- > Relay output to trigger remote alarm (vocal telephonic transmitter ...)
- > Warns SIRIUS software when the battery is low.

Part numbers:

868 Mhz: (European power supply): 06216
(British power supply): 10050
902 Mhz: (South American power supply): 09577
(North American power supply): 10054



SPY RF® Visu (Sirius Transport)

Visualization of measurements and alarms, (can only be used with SIRIUS Transport)

Key features

- > Real time warning if a problem occurs.
- > Works with an external power supply and supplied with backup battery.
- > Sound and visual alarm.
- > Rolling measurement display.
- > Can manage up to 20 measuring channels.

Part numbers: 868 Mhz: 08856 902 Mhz: 09581



Audible and visual alarm device

Key features

- > Warns if a problem occurs.
- > Works with an external power supply.
- > Connects directly to SPY RF® Modem or to SPY RF® AlarM.
- > Audible and visual Alarm (92dB).

Part number: 06570



GSM/GPRS Modem

The GSM Modem is used with SIRIUS softwares, (V.2.0 minimum) and enables SMS/text and MMS messages.

Part number: 00998



Vocal Telephonic Transmitter (VTT)

The vocal telephonic transmitter is an ideal component for any monitoring. In case of alarm, it calls from an analogic phone line to 5 correspondants in cascade.

Key features

- > Customization of identification, alarms and acknowledgements.
- > Ergonomic

Part number: 03833

Technological features of probes

JRI Metrology department recommends the use of two types of probes in order to ensure accurate measurements. The Pt 100 probe is approved as the industrial standard and is available in a large range of accuracy classes (B, A, 1/3 Din, 1/10 Din). The digital probe stores its gauging coefficients. It enables to interchange it without any on-site gauging or calibration constraint. Indeed digital probes are gauged in optimal conditions within our laboratory. All our probes are equipped with binder connector to be connected to the SPY RF® Recorders.

Pt 100 Probes

Moulded flat cable

Part nr.: 09520 > A grade ($\pm 0,15^\circ\text{C}$ at 0°C), 3 m cable, 3 wires, $\phi 5 \times 20$ mm (-40 to $+105^\circ\text{C}$). Exists in 8 m cable.

Standard

Part nr.: 08513 > Stainless steel B grade ($\pm 0,30^\circ\text{C}$ at 0°C), 3 wires, $\phi 5 \times 40$ mm, 5 cm silicon cable (-50 to $+180^\circ\text{C}$).

Part nr.: 08512 > Stainless steel B grade ($\pm 0,30^\circ\text{C}$ at 0°C), 3 wires, $\phi 5 \times 40$ mm, 15 m silicon cable (-50 to $+180^\circ\text{C}$).

Immersion

Part nr.: 00966 > B grade $\phi 5 \times 45$ mm with 3m silicon cable (-50 to $+180^\circ\text{C}$).

Penetration

Part nr.: 00967 > B grade ($\pm 0,30^\circ\text{C}$ at 0°C), 3 wires, 5 m silicon cable, case $\phi 5 \times 150$ mm, Moulded handle $\phi 9 \times 100$ mm (-50 to $+250^\circ\text{C}$) food application.

Cryogenic

Part nr.: 10352 > For container : B grade ($\pm 0,15^\circ\text{C}$ at 0°C), 3 wires, $\phi 3 \times 25$ mm, 50 cm fluoropolymere cable (-200 to $+260^\circ\text{C}$).

Part nr.: 00968 > For fixed tanks : B grade ($\pm 0,15^\circ\text{C}$ at 0°C), stainless steel $\phi 3 \times 25$ mm, 3 wires, 6 m fluoropolymere cable (-200 to $+260^\circ\text{C}$).

High temperature

Part nr.: 08891 > B grade stainless steel $\phi 6 \times 50$ mm, 3 m cable, 3 wires, interwoven stainless steel (0°C to $+400^\circ\text{C}$).

1/3 DIN high accuracy

Part nr.: 08511 > ($\pm 0,1^\circ\text{C}$ at 0°C), 3 wires, $\phi 6 \times 50$ mm, 3 m cable (-90 to $+250^\circ\text{C}$).

Screw-in

Part nr.: 09928 > B grade 3 m cable, 3 wires, can be un-plugged.

Digital probes (4th generation probe with very low drift)

Temperature

Part nr.: 06556¹ > Stainless steel $\phi 7 \times 36$ mm, (-40 to $+80^\circ\text{C}$) 3 m flat cable with Binder connector

Part nr.: 10560¹ > Stainless steel $\phi 7 \times 36$ mm, (-40 to $+80^\circ\text{C}$) 1 m flat cable with IP67 connector

Part nr.: 10559 > Stainless steel $\phi 7 \times 36$ mm, (-40 to $+80^\circ\text{C}$) $\phi 4 \times 40$ cm with Binder connector

Part nr.: 08872¹ > Stainless steel $\phi 7 \times 36$ mm, (-40 to $+80^\circ\text{C}$) $\phi 4 \times 40$ cm cable with IP67 connector.

Hygrometry

Part nr.: 09471 > (-40 to $+80^\circ\text{C}$ 0 to -100% RH²), extension lead to be ordered separately (See page 15).

Part nr.: 09501 > With protecting coating³ (-40 to $+80^\circ\text{C}$ / 0 to -100% RH*), extension lead to be ordered separately (See page 15).

Door contact sensors

Part nr.: 10422 > To detect door openings in a thermostatic cabinet (50 cm cable).

Part nr.: 10401 > To detect door openings in a cold chamber with a sliding door (universal adaptor to be ordered separately).



1) Incubator version available.
2) Non condensing.
3) Saline or corrosive environment.

For SPY RF® U

For SPY RF® N

For SPY RF® U or N



Power supply failure detector (DCS)

Part nr.: 08784 > To detect power failure supply. This sensor has to be connected to the power supply and plugged directly on the SPY RF® recorder. When a failure occurs, the DCS sends the information to SIRIUS software which triggers an alarm.



Transmitters

TH
Part nr.: 10418 > Wall mounting bracket, 2x4-20mA output (-30 to $+70^\circ\text{C}$ /0 to 100% RH*). Universal adaptor and power supply to be ordered separately.

Hygrometry (RH)

Part nr.: 10417 > Wall mounting bracket, 4-20mA output (0 to 100% RH*). Universal adaptor and power supply to be ordered separately.

CO2 for incubator

Part nr.: 08991 > 0 to 20% Comes with a power supply and a 3m cable for SPY RF® U.

Part nr.: 08337 > Mounting bracket for CO₂ transmitter.

O2 for ambient air

Part nr.: 09491 > 4-20 mA output (0-25%). Universal adaptor and power supply to be ordered separately.

ΔP for clean rooms

Part nr.: 10266 > From -100 to $+100$ Pa, ABS shell, IP65, 24 VDC power supply, 4-20 mA output. Universal adaptor and power supply to be ordered separately.

Capcoel for electricity consumption

Part nr.: 10341 > Light impulse output (0 to 50°C /10 to 90%RH). Mounting by double sided adhesive tape, powered by the SPY RF C.

TCK Probes

Standard for high temperatures

Part nr.: 08537 > $\phi 6 \times 400$ mm (-200 to $+1100^\circ\text{C}$), inconel duct, insulated soldering. TCK extension to be ordered separately.

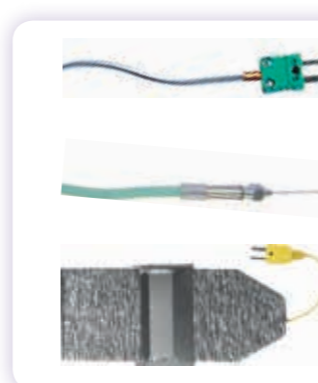
Part nr.: 00735 > 2 m TCK extension cable.

Stainless steel Hypodermic

Part nr.: 10152 > (-50 to $+250^\circ\text{C}$) $\phi 1 \times 60$ mm, 1m fluoropolymere cable.

Hygitherm sensor for pipes

Part nr.: 06499 > (-20 to $+80^\circ\text{C}$) Easy to install, it delivers an accurate measurement without piercing pipes. This sensor is the best solution to prevent legionella.



Probes accessories

3 m extension lead for digital probe

Part nr.: 08873 > For T digital probe with IP67 connector for SPY RF® N.

Part nr.: 06564 > For TH digital probe with IP67 connector for SPY RF® N.

12 m extension lead for digital probe

Part nr.: 08874 > For T digital probe with IP67 connector for SPY RF® N.

Part nr.: 09468 > For TH digital probe with IP67 connector for SPY RF® N.

Universal adaptor

Part nr.: 00949 > (5 m) with connector for SPY RF® N or U and SPY Touch'N

12 vdc / 500 mA Power supply

Part nr.: 04729 > For transmitters, up to four 4-20mA transmitters or 1 VTT transmitter.

24 vdc / 400 mA Power supply

Part nr.: 04732 > For transmitters, up to sixteen 4-20mA transmitters.

For SPY RF® U or N

For SPY RF® U

For SPY RF® TC









JRI EXCLUSIVE
The multi-user Sirius Storage version enables the installation of an unlimited number of Client PC.

NEW
ViewerWeb Sirius allows the use of Sirius Storage by any PC connected on the Internet


Sirius Storage

Software dedicated to monitoring a fixed installation.

The new 2.0 version allows you to:

- > Manage 4 levels of responsibility: administrator, user, batch manager and metrologist. 
- > Display alarms and graphics on any PC of the network without installing any software. 
- > Automatically update Client PC. 
- > Automatically and regularly search for the best radio path in order to guarantee optimal radio communication during or following movements of your temperature controlled chambers. 
- > Receive the most relevant information in case of alarm by e-mail or MMS (graphics, values, thresholds, monitored units, etc...). 
- > Easily replace your equipment thanks to the maintenance function that enables loading of the equipment configuration backup before the replacement. 
- > Manage your metrology by controlling the measurement quality of recorders, monitoring the calibration periods or other services, judging whether a measurement chain complies or not with your criteria relation to its use. 
- > Monitor the quality of stored products with the MKT function (Mean Kinetic Temperature), enabling the level of degradation of thermo sensitive products to be determined. 
- > Easily search thanks to a ranking by serial number, lot or site





Did you know ?
You can receive alams by MMS with display of your graphics, thresholds, values...

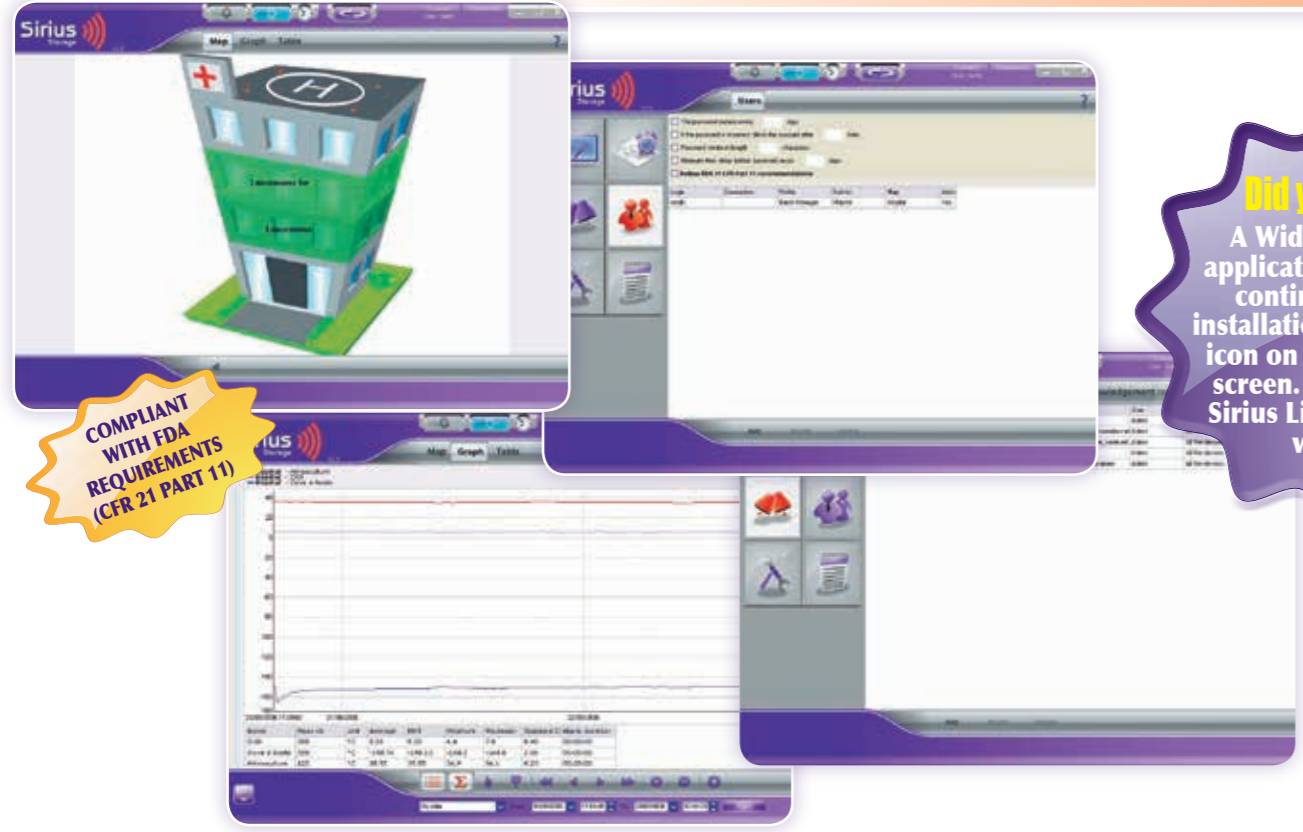


Sirius Lite

Single user software for a simplified use (one server PC, one SPY RF ® Modem and an unlimited number of SPY RF ® recorders).

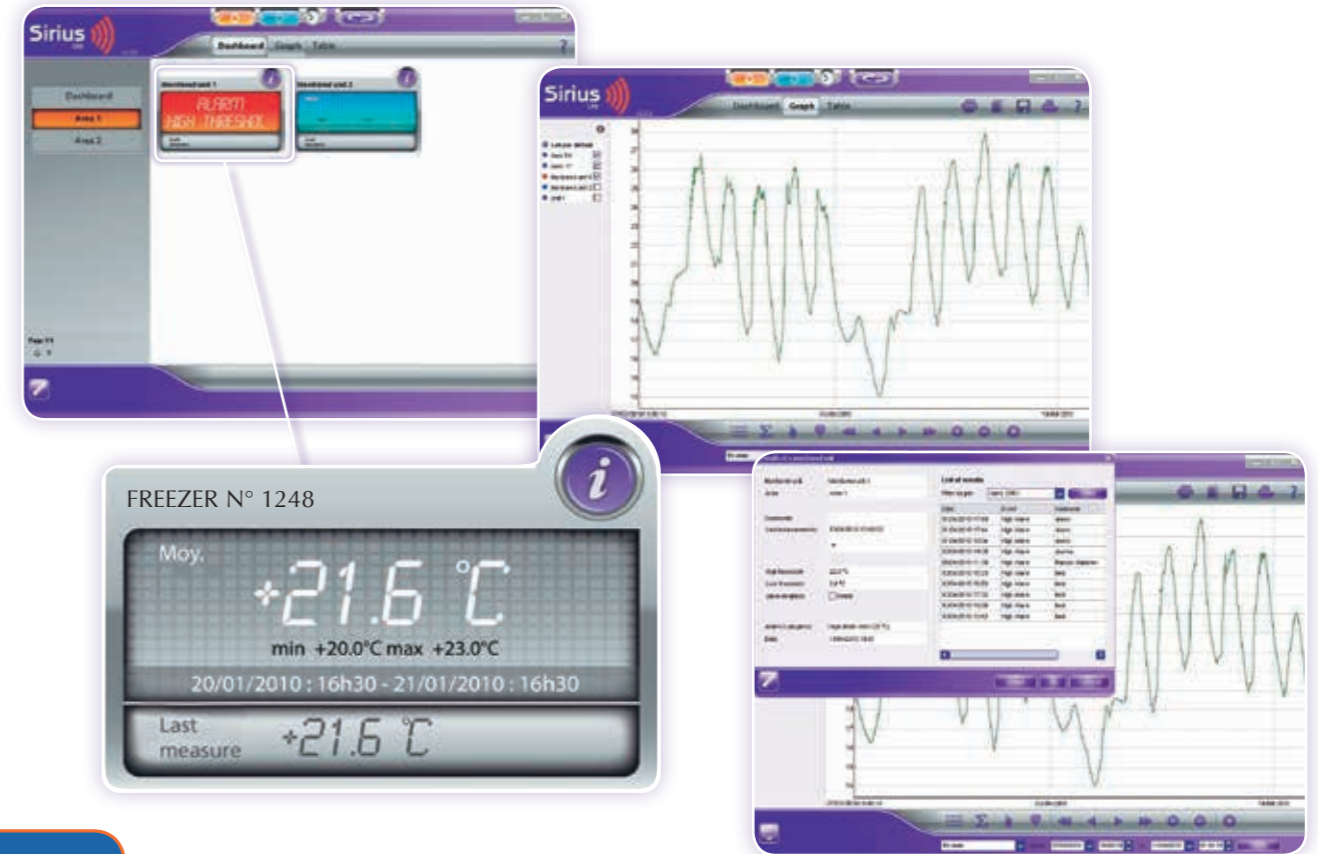
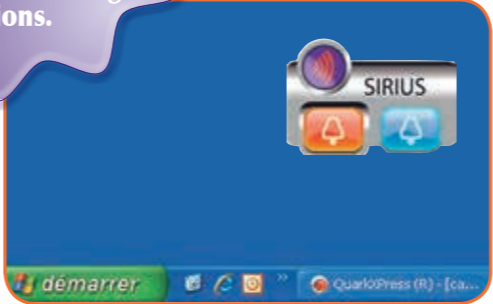
The new 2.1 version allows you to:

- > See all the measurement points at once thanks to the dashboard. 
- > Receive most relevant information in case of alarm by e-mail or MMS (graphics, values, thresholds, monitored units, etc...). 
- > Have new alarm servers available : MMS, SMS/Text Message, e-mail, telephone call, via the internet and without additional equipment. 
- > Monitor the quality of stored products with the MKT function (Mean Kinetic Temperature), enabling the level of degradation of thermo sensitive products to be determined. 



COMPLIANT WITH FDA REQUIREMENTS (CFR 21 PART 11)

Did you know ?
A Widget is a small application monitoring continuously your installation located as an icon on your computer screen. Available with Sirius Lite and Storage versions.



Do you know ?
Microsoft Partner
Silver Edition de logiciel
JRI is Silver Microsoft partner

TIME SAVING - REDUCED COSTS - REINFORCED SECURITY - EFFICIENCY

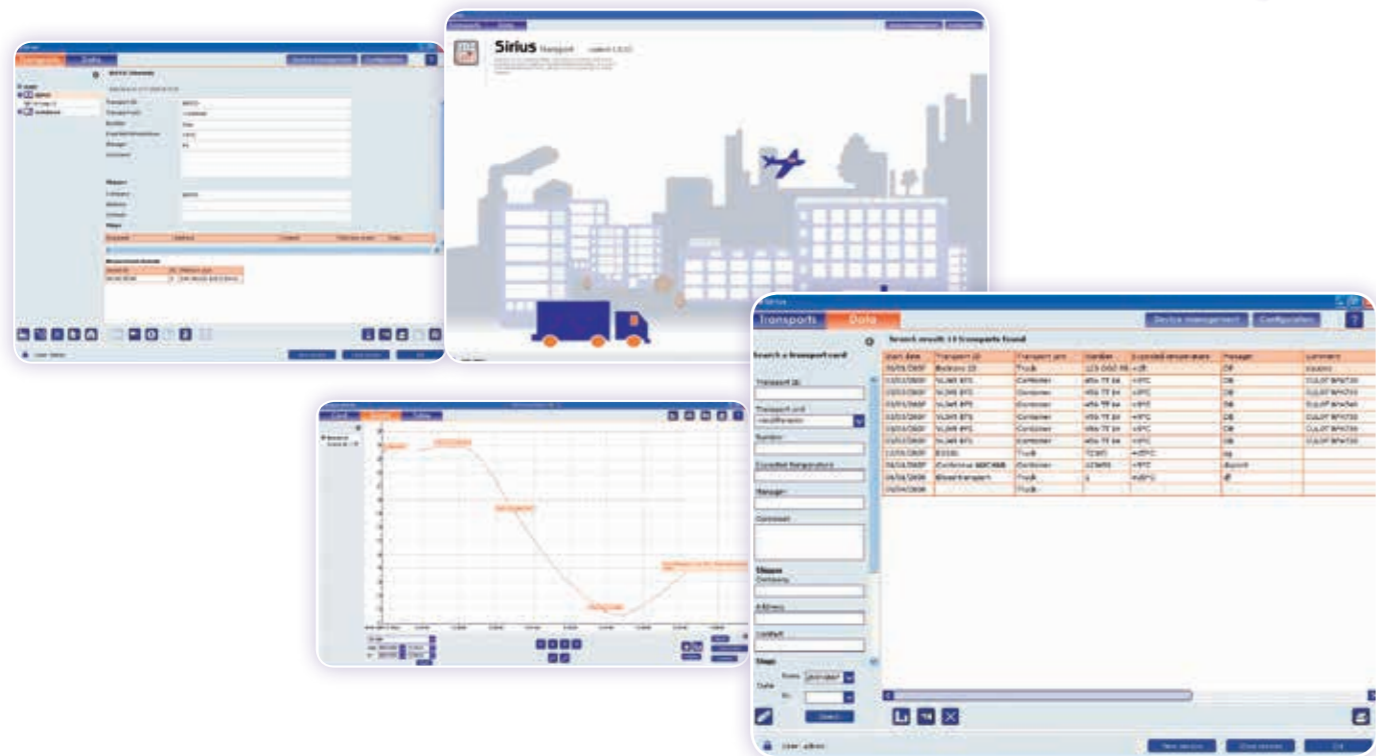
SIRIUS Transport

A software designed to monitor all transport steps.

SIRIUS Transport features:

- > Enables recovery of SPY RF® information located in a vehicle or a trailer automatically and remotely.
- > Enables configuration of a transport sheet (delivery slip, type of transport, address of sender and addressee, vehicle registration, driver name, addresses of stops, date).
- > Marks delivery stops on the graphics.
- > Manages 2 levels of responsibility: administrator and user.
- > Controls several SPY RF® Modem.
- > Displays comments on alarm points.
- > Allows alarms and values reception on the SPY RF® Visu.
- > Manages and searches archived transport files.
- > Allows information or file change between sender and receivers.
- > Available in mono or multi-user versions.

Dual monitoring in the same file: identification of products and recorded temperatures throughout transport.



Did you know ?

This solution enables you to monitor, via the Internet, the temperature of your temperature controlled chambers and react rapidly in case of incident.

A TURNKEY SERVICE
SiriusWeb
 TO MONITOR YOUR TEMPERATURES VIA INTERNET



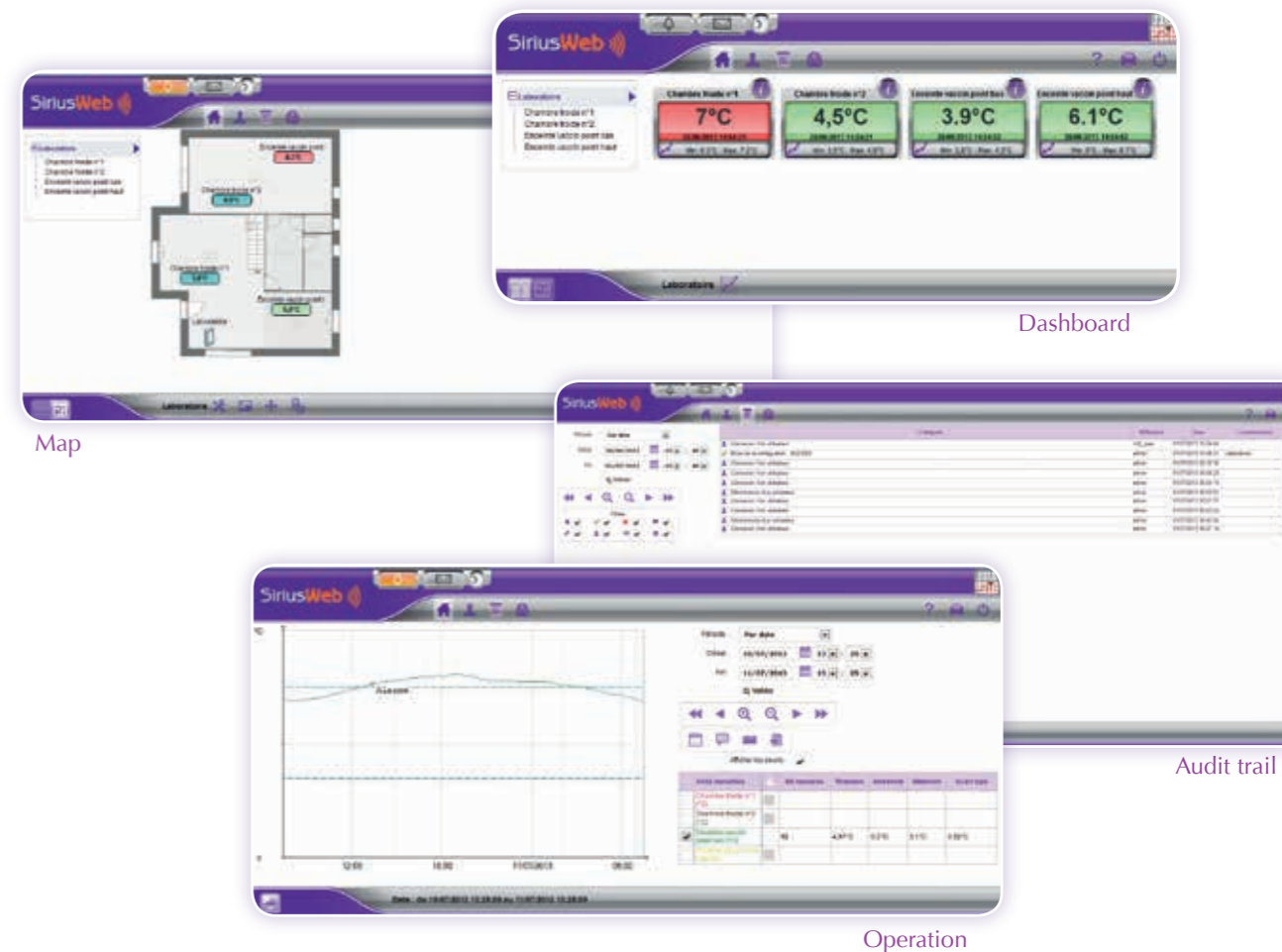
Sirius Web

A hosted and administered solution by JRI

SIRIUS Web benefits :

- > No software required.
- > Automatically records and archives all data on a secured platform.
- > On line access for review available from any PC connected to the Internet.
- > Automatic alarm alerts sent via email, SMS/text message or phone.
- > An audit trail to check all events happened.
- > An email service to communicate with hotline.
- > Available on the App Store.

COMPLIANT WITH FDA REQUIREMENTS (CFR 21 PART 11)













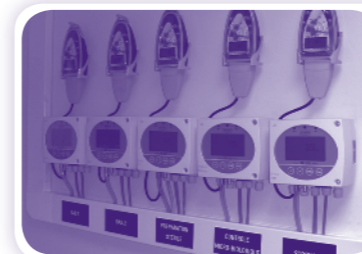
Metrolog Calibration 2.1

Calibration software to proceed to your own metrology operations.

Part nr.: 06548

The new 2.1 version allows you to:

- > Adjust, gauge, check and calibrate the entire SPY RF® range. 
- > Manage your measuring chains fleet with historical display of metrology operations. 
- > Automate your calibrations through automatic detection of stability step. 
- > Demonstrate the ability to produce calibration services to an auditor. 
- > Use all types of standard chains. 
- > Write metrology information in the recorders so that they can be used automatically in Sirius Storage V2.0. 
- > Comply to standards NFX (Calibration certificate) 07-012 and NFX (checking report) 07-011. 
- > Take the maximum permissible errors into account in your different measuring chains systems as well as correction of calibration uncertainties of the standard reference. 
- > Judge the compliance of a measuring chain from its use conditions. 
- > User friendly software where metrologist is guided step by step. 
- > Use several reference standards to perform a metrology operation.



Engineering services

Calling on numerous years of experience, our technicians take on assignments as diverse as on-site qualification of radio communication, installation of probes according to good practice, system parameter setting, preventive and corrective maintenance, on-site metrology, training adapted to every level of involvement, and systems qualification (IQ/OQ).

While proceeding to an installation qualification, we offer on-site installation and set up of your equipment in compliance with manufacturer recommendations (IQ). To confirm the installation qualification operation a test report is issued.

For an operational qualification (OQ) we assess the compliance of the equipment regarding the technical specifications. This operation is also validated by the issuing of a test report.

The IQ/OQ enables installation and operational qualification procedures to be established.



Technical support

A technicians team is at your disposal for:

- Remote maintenance of your SPY RF® system
- Technical hotline
- Interactive FAQ* accessible from the site www.jri-maxant.com

*FAQ: Frequently Asked Questions



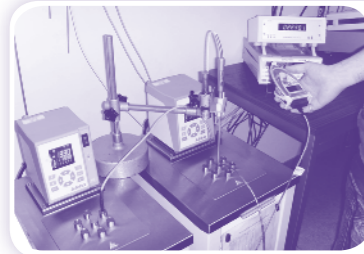
Preventive and corrective maintenance contract with guarantee extension

The SPY RF® system needs to be regularly supervised to optimize its functionalities (measurement accuracy, radio communication quality, software updates, etc...), which is why we offer a global maintenance contract including, in particular:

- Extension of the guarantee on hardware, software and your installation
- Remote maintenance of your application for immediate intervention
- Technical hotline access
- Replacement of failed hardware by standard exchange under certain conditions
- Access to new software versions and additional training
- On-site intervention within 48 working hours if necessary (after dysfunction identification by our experts).

And, optionally:

- Preventive on-site inspection visits
- On-site metrology services (calibration, mapping, adjustment)
- Checking and optimization of radio communications
- Preventive changes of batteries
- Operational qualifications (IQ/OQ)
- Upgrade of your fleet
- Metrology management of your fleet



Metrology services

Laboratory metrology services

JRI acquired and improves skills in quality of measurements and owns two ISO 17025 accredited laboratories.

These accredited laboratories perform temperature calibration certificates in a range from -20°C to +140°C with an uncertainty of $\pm 0,037^\circ\text{C}$ and from -80°C to -40°C ($0,055^\circ\text{C}$) and at -196°C ($0,09^\circ\text{C}$). Other metrology operations can be performed on all brands equipments in temperature, humidity, CO₂, pressure, etc...

The quality of services provided by these laboratories is audited and confirmed every year by an independent organization, COFRAC. This accreditation, for our customers, corresponds to a commitment on the quality of calibration and a guaranteed uncertainty value, but it is also an international recognition of the quality system set up within ISO standards.

Thanks to this structure, we can fully satisfy customer demands with ever-increasing requirements in the control of measuring chain uncertainty. Furthermore our customers, themselves COFRAC accredited according to ISO 17025 and ISO 15189 standards need to be supported by specialists. Using COFRAC accredited laboratories guarantees reliable and objective measurements.



Did you know ?
Each measurement has a degree of uncertainty; the essential is to be aware of it and to manage it.

Temperatures	Traceable to COFRAC		COFRAC (ISO 17025)*	
	Checking report	Temperature calibration	Checking report	Temperature calibration
-18°C, +2°C, +8°C	Part nr. 09772	Part nr. 09781	Part nr. 09198	Part nr. 10681
-20°C, 0°C, +40°C	-	-	Part nr. 09737	Part nr. 10682
+36°C, +38°C, +45°C	Part nr. 09773	Part nr. 09782	Part nr. 09199	Part nr. 10680
-30°C, -18°C	Part nr. 10411	Part nr. 10412	Part nr. 10410	Part nr. 10677
+2°C, +8°C	Part nr. 10415	Part nr. 10413	Part nr. 10414	Part nr. 10676
-196°C, -80°C	Part nr. 09771	Part nr. 09780	-	-
-196°C	-	-	Part nr. 10334	Part nr. 10679
-80°C	-	-	Part nr. 10333	Part nr. 10678

On request :
COFRAC temperature calibration (from 2 to 5 points) between -80°C and +140°C and at the point +196°C.
Calibration (from 2 to 5 points) between -80°C and +250°C.
Relative humidity calibration (3 points : 20%, 50%, 80%RH of the measurement range), relative pressure calibration (3 points between 30 mBar and 1000 mBar).



On-site measurement services

We recommend the control of the homogeneity of thermostatically controlled chambers for all thermo sensitive products. In this respect, we employ a team in charge of defining the ISO 17025 characteristics of your chambers on your premises, according to NF X 15-140 and CEI 60068-3 standards. Each characterization survey is recorded in a mapping report highlighting the critical points and the compliance of the chambers in relation to predefined requirements.

Calibrations and adjustments are offered on site as well.



On-site Metrology operations offered:	Traceable to COFRAC	COFRAC (ISO 17025)*
9 points thermostatic chambers temperatures mapping	Part nr. 08396	Part nr. 09854
15 points thermostatic chambers temperatures mapping	Part nr. 08741	Part nr. 09855
15 pts thermostatic cabinets mapping in 6 hours	Part nr. 10818	Part nr. 10975
15 pts thermostatic cabinets mapping in 24 hours	Part nr. 10819	Part nr. 10976
Temperature calibration certificate on 1 point (use point)	Part nr. 09921	-
Temperature calibration certificate on 3 points	Part nr. 09922	-
Relative humidity calibration certificate on 1 point (use point)	Part nr. 09923	-
CO ₂ calibration certificate on 1 point (5%)	Part nr. 09238	-
Adjustment + adjustment certificate per channel on 1 point at the use point	Part nr. 09917	-

On request:
Temperature mappings of chambers for temperature and humidity.
* Between -80°C and +140°C.

CARTONES
Ident. no. 101094

Remote temperature mapping via the Internet

- JRI delivers the materials needed to make your T°C mapping
- The user installs the hardware following our recommendations
- Our metrological department initiates the T°C mapping during the night
- Once the materials returned to JRI, you receive your mapping report



Training

We offer you different training schemes such as technical maintenance, installation and set up of systems, wireless system use and administration, and metrology.

JRI delivers metrology training presenting the principles of metrology and training in different calibration and mapping techniques for standard laboratory equipment (incubators, autoclaves, refrigerators, freezers, cold rooms, etc...).

Duration	2 days - 2 to 5 people session
Location	Paris region
Programme	<ul style="list-style-type: none"> > Metrology in the laboratory <ul style="list-style-type: none"> Definitions Standards Meeting requirements > Characteristics of measurement means <ul style="list-style-type: none"> Management of a fleet of devices The calibration chain Procedures and documents > Calibration and measurement uncertainty <ul style="list-style-type: none"> Definitions Method > Integration of metrology in the qualification process (IQ/OQ/PQ) <ul style="list-style-type: none"> Difference between metrology and qualification The role of metrology in qualification > Characteristics of a thermostatic chambers <ul style="list-style-type: none"> Principles Standards Quality follow up Practical aspects



JRI is ISO 9001 version 2008 accredited



JRI is a member of CFM (Collège Français de Métrologie)

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