



USER GUIDE

LoRa® SPY



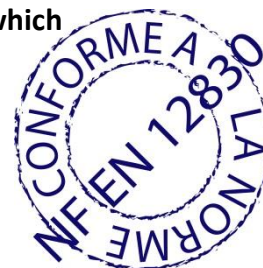
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I. INTRODUCTION

The LoRa® SPY is a recorder capable of measuring 1 or 2 physical quantities (T / TH or other quantity depending on the model) and transmitting by radio to monitoring software hosted on a platform. The radio transmission uses the LoRa® long-distance network.

The LoRa® SPY (T0, T1 and T2) comply with EN 12830 and compatible with EN 13486 which defines procedures for periodic verification.



a) Product contents

- 1 LoRa® SPY
- 1 User guide

b) Symbols

	RECYCLING: do not dispose of in a refuse dump or waste disposal bin. Comply with existing legislation for disposal.
	Power source: this device is powered by a 3.6VDC type AA lithium battery (§ ch. V).
	CE LABELING: this device is certified to conform to European regulations for electrical safety, flammability, disruptive electromagnetic emissions, and immunity to environmental electrical disturbances.
	Opens www.jri-mysirius.com .
	<p>FCC ID: W4512267</p> <p><i>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation</i></p> <p><i>In accordance with FCC requirements, changes or modifications not expressly approved by JRI could void the user's authority to operate this product.</i></p> <p>NOTE: <i>This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.</i></p>



Do not use the device under conditions other than those described in the technical characteristics

Risk of fire or explosion in the case of improper use:

- Recharging of the battery
- Short circuiting of the battery

If the device is used in a manner not specified by the manufacturer, the protection provided by the device may be compromised.

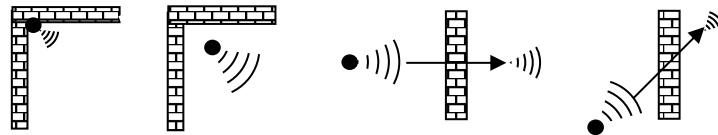
II. INSTALLATION RECOMMENDATIONS

The LoRa® SPY is a recorder which communicates by radio with software hosted on a Web platform via the LoRa® long-distance public network or private network using a LoRa® Gateway. To ensure optimal radio transmission, a certain number of recommendations must be respected, as any wireless transmission is subject to disturbances.

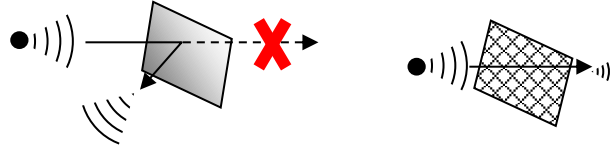
a) Sources of disturbances or attenuation

- The presence of obstacles in the wave path around the LoRa® SPY or between the LoRa® SPY and the Gateway in case of use (wall, furniture, people...) or near the antenna.

- The thickness of an obstacle in the wave path. The attenuation is greater diagonally than perpendicularly



- A solid metal wall will not allow transmission by radio. A perforated metal wall will allow waves to pass while attenuating them.



b) Positioning

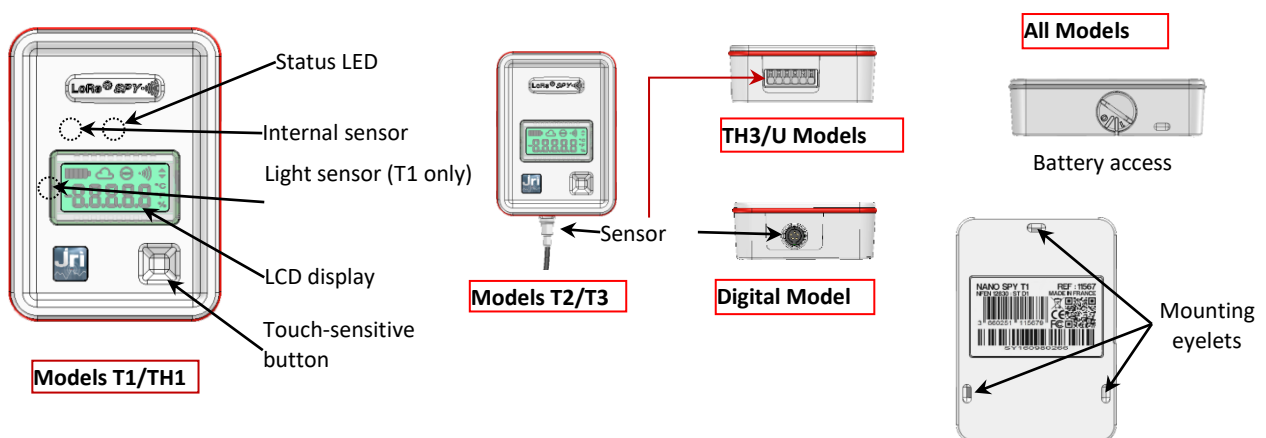
- The LoRa® SPY units can be placed either inside or outside the enclosures.
- For installations outside the enclosure, mount the units sufficiently high on the walls to avoid interference with obstacles and foot traffic.
- The LoRa® SPY uses the LoRa® public network.
- Never place the LoRa® SPY unit horizontally.
- If difficulties persist use the LoRa® SPY with remote probe in order to position it in a zone of radio coverage.
- Also, some specific recommendations for exposure to magnetic fields must be followed: This equipment complies with FCC’s radiation exposure limits set forth for an uncontrolled environment under the following conditions:”
 - This equipment must be installed and operated such that a minimum separation distance of 20cm is maintained between the radiator (antenna) and user’s/nearby person’s body at all time.
 - This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter



To ensure your safety during installation or an intervention on a device placed in a high position, use proper equipment which is in good condition and provides adequate stability, wear appropriate, non-slip shoes and install warning signs around the work area if the intervention takes place in an area of foot traffic.

III. PRESENTATION

a) Control unit



Le LoRa®SPY T1 is equipped with a detector of presence or absence of light. When the LoRa®SPY unit is enclosed (in the dark) the measurements are no longer displayed (whereas the battery level, the RSSI and the network indicators still are) and its status LED continues to flash.

b) **LCD display**



Battery level indicator



MySirius connection indicator



LoRa® network connection indicator



Searching factory network

Blinking: Searching for LoRa® network



Fixed: LoRa® network found

Empty: LoRa® Network not found



Connected to MySirius



RSSI radio reception level indicator



Threshold overrun indicator (▲ High, ▼ Low)

c) **Mounting**

The LoRa® SPY can be mounted in 2 different ways

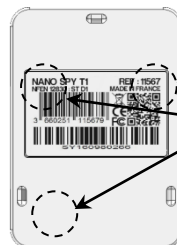
- *Using a tie wrap to attach it to the monitored product*



Mounting eyelets

- *Magnetically*

The LoRa® SPY has 3 internal magnets for mounting on magnetic metal walls.



Magnets

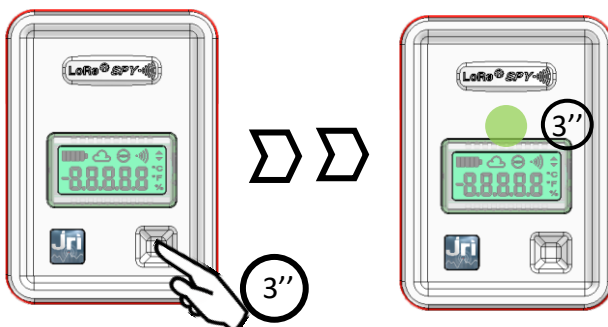
IV. USE

The LoRa® SPY can only be used with the My Sirius software hosted on a Web platform.

a) **OFF state**

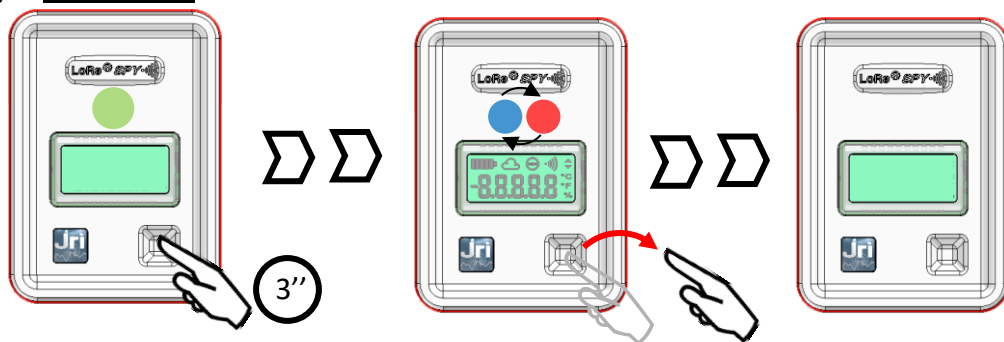
As delivered, the LoRa® SPY is turned off. It can neither emit nor receive signals.

b) **Activation**



Once activated, the LoRa® SPY measures and transmits its measurements to My Sirius, at the frequency defined in MySirius, then flashes regularly as a function of its status.

c) Turning Off

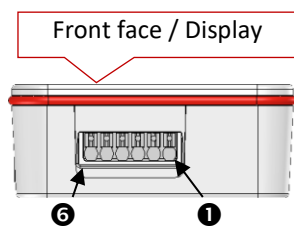


d) Actions on the touch-sensitive button

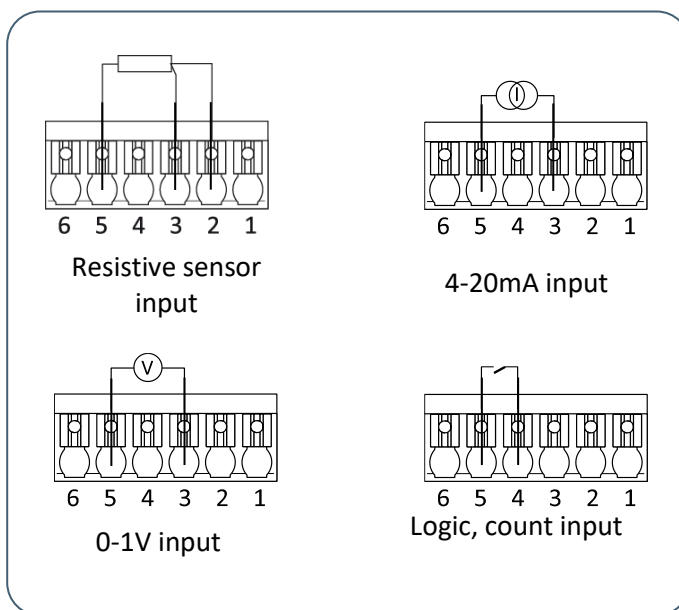
Mode \ Touch duration	< 3s	> 3s	>8s
Activation	-	● during 3s	● during 3s The LoRa SPY remains activated
Measurement	<ul style="list-style-type: none"> ● 1s = OK ● 1s = Technical alarm ⊙ 3x1s = OK but paused ● 1s = In alarm state 	⊙ Off	
Off	-	⊙ Off	

V. PROBE CONNECTIONS

The Universal LoRa® SPY has a quick connector facilitating the installation of different types of sensors. The sensors can be disconnected from the recorder for their replacement or for changing the recorder itself



- ① NC
- ② Resistive sensor power
- ③ Analog input (Resistance Current Voltage)
- ④ Logic, count or frequency input
- ⑤ GND (0V)
- ⑥ NV



**!/ Connect only sensors which are compatible with the technical characteristics of the devices
Sensor default detection is not possible in 0-20mA and 0-1V.**

VI. BATTERY REPLACEMENT

Removing the battery

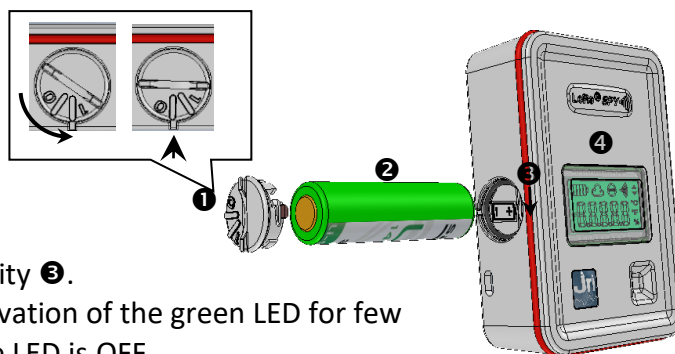
- Open the battery cover ① with a suitable object (2cts coin) to align the marks
(/!\0 = Open ; 1= Closed)

- Remove the battery ② from its lodging

Replacing the battery

- Insert the new battery ② respecting the polarity ③.

The Battery detection is confirmed by the activation of the green LED for few seconds ④. The device can be started after the LED is OFF.



**KEEP THE BATTERY AWAY FROM FIRE; DO NOT ATTEMPT TO RECHARGE OR SHORT-CIRCUIT IT
ONLY USE BATTERIES* SUPPLIED BY JRI (REF : 11596)**

*Recommended battery: Saft LS14500 type AA 3.6V 2250mAh

VII. CHARACTERISTICS

LoRa® SPY T0 - Temperature (internal probe)



HIM	: 1 LED RGB + 1 touch-sensitive button
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensor	: PT100 sensitive element inside unit
Operating range	: -35+85°C
Measurement range	: -35+85°C
Accuracy, standard version	: ±0.5°C from -20°C to +30°C / ± 0.8°C outside this range
Resolution	: 0.01
IP rating	: IP 68
Frequency of recording and transmission	: adjustable from 1min to 24h
Frequency of measurement	: 1 or 5 min
Response time	: ~ 15 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe – Without magnets
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g

LoRa® SPY T1 - Temperature (internal probe)



HIM	: 1 LED RGB + 1 touch-sensitive button + 1 LED Display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensors	: PT100 sensitive element inside unit Light presence sensor
Operating range	: -30+70°C
Measurement range	: -30+70°C
Accuracy, standard version	: ±0.4°C from -20°C to +40°C / ± 0.5°C outside this range
Resolution	: 0.01
IP rating	: IP 68
Frequency of recording and transmission	: adjustable from 1min to 24h (15 min in standard use)
Frequency of measurement	: 1 or 5 min
Response time	: ~ 15 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm

Weight	: ~ 100g
LoRa® SPY TH1 - Thermo-Hygro Internal	
HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensor	: Inside control unit
Operating range	: -30+70°C
Measurement range	: -30+70°C and 0 – 100% RH
Accuracy, standard version	
Temperature	: ± 0.4°C from -20 C° to +40°C / ± 0.5°C outside this range
Humidity at T° between 15 and 25°C	±2% HR from 20% to 80% ±4% HR from 0 to 20% and 80% to 100%
Resolution	: 0.01
IP rating	: IP 40
Frequency of recording and transmission	: adjustable from 1 min to 24h (15 min in standard use)
Frequency of measurement	: 1 or 5 min
Response time	: ~ 5 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g



LoRa® SPY N Digital

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensor	: External to control unit
Operating range	: -30+70°C
Measurement range	: according to the type of JRI digital probe
Accuracy, standard version	: Accuracy of the JRI digital probes
Resolution	: 0.01
IP rating	: IP 40
Frequency of recording and transmission	: adjustable from 1min to 24h (5min in standard use)
Frequency of measurement	: 1 or 5 min
Response time	: Depending of the digital probe used
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g



LoRa® SPY TH3 – Precision Thermo-Hygro (coming soon)

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensor	: External to control unit
Operating range	: -30 +70°C
Probe measuring range	
Standard	: -40 +60°C and 0-100%HR
Industrial	: -100 +200°C configurable and 0-100%HR
Probe accuracy at 23°±0,5°C	
Standard	Temperature: ± 0,1°C / Humidity : 0,8%RH
Industrial	Temperature: ± 0,2°C / Humidity : 0,8%RH
Resolution	: 0.01
IP rating	: IP 40



Frequency of recording and transmission	: adjustable from 1min to 24h (5min in standard use)
Frequency of measurement	: 1 or 5min
Response time	: ~ 2 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g

LoRa® SPY T2 – Standard remote temperature

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Sensor	: PT100 external probe, non-withdrawable, flat cable
Operating range	: from -30 to +70°C and 10 to 90%HR
Measurement range	: - 50 +105°C
Accuracy, standard version	: ±0.3°C from -20 to 30°C / ± 0.5°C outside this range
Accuracy, incubator version	: ±0.2°C de +30 à +50°C/± 0.5°C outside this range
IP rating	: IP 67
Cable length	: 30 cm, 3 m
PT100 probe resolution	: 0.01
Frequency of recording and transmission	: adjustable from 1' to 24h
Frequency of measurement	: 1 or 5min
Response time	: ~ 2 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g (without probe)



LoRa® SPY T3 - Low temperature

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz
Memory	: 10 000 time-stamped measurements
Sensor	: External PT100 non-withdrawable ø2,9mm
Operating range	: -20 to 50°C
Measurement range	: -200 to +0°C
Accuracy, standard version	: ±0.2°C from 0°C to -20°C and ±0.5°C outside this range
Accuracy, incubator version	: 0.01
IP rating	: IP 65
Cable length	: 50 cm and 3 m
Frequency of recording and transmission	: adjustable from 5' to 24h
Frequency of measurement	: 1 or 5min
Response time	: ~ 2 min. to 90% of the variation
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g (without probe)



LoRa® SPY T4 Hygitherm (Calibrated for Hot Water Network)



A reflector to isolate the sensor from ambient conditions is available as an option

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz
Memory	: 10 000 time-stamped measurements
Sensor (with over-molded support)	: PT100 non-withdrawable
Operating range	: -30 to +70°C
Measurement range	: -40 to +85°C
Accuracy @55°C	: ±0.3°C on copper tube network ±0.5°C on HTA tube network
Resolution	: 0.01
IP rating	: IP 65
Cable length	: 2m
Frequency of recording and transmission	: from 1 min to 24h
Frequency of measurement	: 1 or 5 min
Response time	: <2min. à 90% de la variation
Power source	: Lithium battery 3,6v – 2 to 4 years life duration depending on use
Case	: Polycarbonate – food
Dimensions	: 87 mm x 63 mm x 25 mm
Weight	: ~ 100g (excluding probe and wire)

LoRa® SPY U - Universel



HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 time-stamped measurements
Input type:	
PT100 input	
measurement range:	-200°C to +300°C (*)
resolution:	0,01°C
accuracy (not including probe) :	± 0,2°C from -20°C to +50°C ±0,3°C from -80°C to -20°C and from +50°C to +140°C ± 0,5°C beyond these ranges
Current input	(No detection of probe failure for 0-20mA input)
measurement range:	0 to 20 mA or 4-20mA
resolution:	0,001 mA
accuracy (control unit only):	± 0,01 mA
Voltage input	(No detection of probe failure for 0-1 V input)
measurement range:	0 à 1V
resolution:	0,1 mV
accuracy (control unit only)	±0.5 mV
On/Off or Count input	
Type of input	Dry contact or 0-3,3V max
measurement range:	0 à 65535 – signal from 0 to 200Hz
resolution:	1
accuracy	±1
Operating range	: 0 to 50°C
Resolution	: 0.01
IP rating	: IP 34
Frequency of recording and transmission	: adjustable from 1min to 24h
Frequency of measurement	: 1 or 5min in standard using MySirius)
Response time	: Depending of the probe used
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g (without probe)

LoRa® SPY Reference

HIM	: 1 RGB LED + 1 touch-sensitive button + 1 LCD display
Communication	: LoRa® 868MHz or 915MHz*
Memory	: 10 000 data points
Sensor	: External Class A PT 100 - stainless steel Ø2,9x25mm
Operating range	: from -30 to +70°C
Measurement range	: - 196°C to +150°C
Accuracy	: ±0,12°C from 0 to -30°C ±0,20°C from -30°C to 0°C and from +50°C to +150°C ±0,50°C out of this range
IP rating	: IP 65
Cable length	: 3 m
PT100 probe resolution	: 0.01
Frequency of recording and transmission	: Adjustable from 1 min to 24h
Frequency of measurement	: Adjustable from 1 to 5min
Response time	: ~ 2 min
Power source	: 3,6V Lithium battery– 2 to 4 years autonomy depending on use
Case	: Polycarbonate – Food safe
Dimensions	: 87 mm x 64 mm x 25 mm
Weight	: ~ 100g (without probe)



*2018 4th trimestral.

a) Compliance

All our products follow the standards:

EN 12830 Yes, for T0, T1 and T2 models: these devices must be verified regularly according to EN 13486 (recommendation is once per year)

CE ERM EN 301 489 / EN 61000 / EN 61010 / EN 55022 / EN 300 220

IC CANADA This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

This equipment should be installed and operated such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) and user's/nearby person's body at all times.

VIII. MAINTENANCE

Clean the device with a soft cloth, either dry or slightly moistened with water. To remove stubborn dust, use a cloth soaked in a diluted, non-abrasive detergent. Then wipe carefully with a soft dry cloth.

Never use benzene, thinner, alcohol or any type of solvent, which can cause discoloration or deformation of the surfaces.

IX. SUITABILITIES FOR USE (LORA® SPY T0-T1-T2-T3)



FICHE D'APTITUDE A L'EMPLOI SELON LA NORME NF 12830 VERSION 1999

Capacity of compliance to EN12830 norm (version 1999)

Modèle / model:

LORA SPY T0

Type de matériel / equipment type :

enregistreur de température / temperature recorder

Utilisation / application :

Stockage / storage

Environnement climatique / climatic environment:

C

Classe d'exactitude / accuracy class:

I

Tableaux des essais / Test table

Essais	§ norme	Exigences	Caract.	Documents ou rapports d'essais
Détermination de l'erreur de la mesure de la température	5.3	±1°C	±0,5°C	Procès-verbal d'essais JRI QUALIF18007
Détermination du temps de réponse	5.4	<60 minutes	~15 minutes	Procès-verbal d'essais JRI QUALIF18006
Détermination de l'erreur relative de l'enregistrement du temps	5.5	0,1%	0,007%	Procès-verbal d'essais JRI RQCC17002
Variation de la tension d'alimentation	5.6.2	3,2V à 3,6V -30°C à +30°C	3,0 V à 3,7V -40°C à +85°C	Procès-verbal d'essais JRI RQCC17002
Influence de la température ambiante	5.6.3.3	-40°C à +50°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18003
Essai de température avec l'enregistreur en condition de stockage et de transport	5.6.4	-40°C à +60°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18005
Résistance aux chocs	5.6.5	EN 60068-2-27	N/A	Non requis pour stockage
Vibrations mécaniques	5.6.6	EN 60068-2-27	N/A	Non requis pour stockage
Degrés de protection procurés par l'enveloppe	5.6.7	IP 55	IP68 avec résistance à la condensation selon EN 60529	Procès-verbal d'essais JRI RQCC17002
Sécurité électrique	5.6.8	IEC 61010-1 : 2010 (troisième édition)		Rapport d'essai EMITECH RS-300-PTC-16-105739-1-A
Rigidité diélectrique	5.6.9	N.A.	N.A.	
Compatibilité électromagnétique	-	Draft ETSI 301489-3 V2.1.0 : 2016 Draft ETSI 301489-1 V2.1.1 : 2016 EN 61326-1 : 2013 EN62479 : 2010		Rapport d'essai EMITECH RC-300-PTC-16-105739-1-A

Pour JRI

Le Responsable Qualité & Projects :
Projects & Quality manager :

Rémi MOREAU

2018.03.05

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JRI, Société par actions simplifiée au capital de 4 000 000 €

Pôle logistique / 2 Rue de la Voivre / PA Technoland / BP 21 / 25490 FESCHES LE CHÂTEL / France

SIRET 380 332 858 00030 - Tél : +33 (0)3 81 30 68 04 / Fax : +33 (0)3 81 30 60 99 / sales@jri.fr

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www.jri.fr

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Modèle / model:

LORA SPY TI

Type de matériel / equipment type :

enregistreur de température / temperature recorder

Utilisation / application :

Stockage / storage

Environnement climatique / climatic environment:

C

Classe d'exactitude / accuracy class:

1

Tableaux des essais / Test table

Essais	§ norme	Exigences	Caract.	Documents ou rapports d'essais
Détermination de l'erreur de la mesure de la température	5.3	±1°C	±0,5°C	Procès-verbal d'essais JRI QUALIF18007
Détermination du temps de réponse	5.4	<60 minutes	~15 minutes	Procès-verbal d'essais JRI QUALIF18006
Détermination de l'erreur relative de l'enregistrement du temps	5.5	0,1%	0,007%	Procès-verbal d'essais JRI RQCC17002
Variation de la tension d'alimentation	5.6.2	3,2V à 3,6V -30°C à +30°C	3,0 V à 3,7V -40°C à +85°C	Procès-verbal d'essais JRI RQCC17002
Influence de la température ambiante	5.6.3.3	-40°C à +50°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18003
Essai de température avec l'enregistreur en condition de stockage et de transport	5.6.4	-40°C à +60°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18005
Résistance aux chocs	5.6.5	EN 60068-2-27	N/A	Non requis pour stockage
Vibrations mécaniques	5.6.6	EN 60068-2-27	N/A	Non requis pour stockage
Degrés de protection procurés par l'enveloppe	5.6.7	IP 55	IP68 avec résistance à la condensation selon EN 60529	Procès-verbal d'essais JRI RQCC17002
Sécurité électrique	5.6.8	IEC 61010-1 : 2010 (troisième édition)		Rapport d'essai EMITECH RS-300-PTC-16-105739-1-A
Rigidité diélectrique	5.6.9	N.A.	N.A.	
Compatibilité électromagnétique	-	Draft ETSI 301489-3 V2.1.0 : 2016 Draft ETSI 301489-1 V2.1.1 : 2016 EN 61326-1 : 2013 EN62479 : 2010		Rapport d'essai EMITECH RC-300-PTC-16-105739-1-A

Pour JRI

Le Responsable Qualité & Projects :

Projects & Quality manager :

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JRI, Société par actions simplifiée au capital de 4 000 000 €

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Modèle / model:

LORA SPY T2

Type de matériel / equipment type :

enregistreur de température / temperature recorder

Utilisation / application :

Stockage / storage

Environnement climatique / climatic environment:

A / C

Classe d'exactitude / accuracy class:

1

Tableaux des essais / Test table

Essais	§ norme	Exigences	Caract.	Documents ou rapports d'essais
Détermination de l'erreur de la mesure de la température	5.3	±1°C	±0,25°C	Procès-verbal d'essais JRI QUALIF18007
Détermination du temps de réponse	5.4	<20 minutes	~2 minutes	Procès-verbal d'essais JRI QUALIF18002
Détermination de l'erreur relative de l'enregistrement du temps	5.5	0,1%	0,007%	Procès-verbal d'essais JRI RQCC17002
Variation de la tension d'alimentation	5.6.2	3,2V à 3,6V A : +5°C/+40°C C : -30°C/+30°C	3,0 V à 3,7V -40°C à +85°C	Procès-verbal d'essais JRI RQCC17002
Influence de la température ambiante	5.6.3.3	A : 0°C/+50°C C : -40°C/+50°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18004
Essai de température avec l'enregistreur en condition de stockage et de transport	5.6.4	A : -20°C/+60°C C : -40°C/+60°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18005
Résistance aux chocs	5.6.5	EN 60068-2-27	N/A	Non requis pour stockage
Vibrations mécaniques	5.6.6	EN 60068-2-27	N/A	Non requis pour stockage
Degrés de protection procurés par l'enveloppe	5.6.7	IP 65	IP65 selon EN 60529	Procès-verbal d'essais JRI RQCC17002
Sécurité électrique	5.6.8	IEC 61010-1 : 2010 (troisième édition)		Rapport d'essai EMITECH RS-300-PTC-16-105739-1-A
Rigidité diélectrique	5.6.9	N.A.	N.A.	
Compatibilité électromagnétique	-	Draft ETSI 301489-3 V2.1.0 : 2016 Draft ETSI 301489-1 V2.1.1 : 2016 EN 61326-1 : 2013 EN62479 : 2010		Rapport d'essai EMITECH RC-300-PTC-16-105739-1-A

Pour JRI

Le Responsable Qualité & Projects :
Projects & Quality manager :

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Modèle / model:

LORA SPY T3

Type de matériel / equipment type :

enregistreur de température / temperature recorder

Utilisation / application :

Stockage / storage

Environnement climatique / climatic environment:

A / C

Classe d'exactitude / accuracy class:

1

Tableaux des essais / Test table

Essais	§ norme	Exigences	Caract.	Documents ou rapports d'essais
Détermination de l'erreur de la mesure de la température	5.3	±1°C	±0,25°C	Procès-verbal d'essais JRI QUALIF18007
Détermination du temps de réponse	5.4	<20 minutes	~2 minutes	Procès-verbal d'essais JRI QUALIF18002
Détermination de l'erreur relative de l'enregistrement du temps	5.5	0,1%	0,007%	Procès-verbal d'essais JRI RQCCI7002
Variation de la tension d'alimentation	5.6.2	3,2V à 3,6V A : +5°C/+40°C C : -30°C/+30°C	3,0 V à 3,7V -40°C à +85°C	Procès-verbal d'essais JRI RQCCI7002
Influence de la température ambiante	5.6.3.3	A : 0°C/+50°C C : -40°C/+50°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18004
Essai de température avec l'enregistreur en condition de stockage et de transport	5.6.4	A : -20°C/+60°C C : -40°C/+60°C	-40°C à +85°C	Procès-verbal d'essais JRI QUALIF18005
Résistance aux chocs	5.6.5	EN 60068-2-27	N/A	Non requis pour stockage
Vibrations mécaniques	5.6.6	EN 60068-2-27	N/A	Non requis pour stockage
Degrés de protection procurés par l'enveloppe	5.6.7	IP 65	IP65 selon EN 60529	Procès-verbal d'essais JRI RQCCI7002
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Compatibilité électromagnétique	-	Draft ETSI 301489-3 V2.1.0 : 2016 Draft ETSI 301489-1 V2.1.1 : 2016 EN 61326-1 : 2013 EN62479 : 2010		Rapport d'essai EMITECH RC-300-PTC-16-105739-1-A

Pour JRI

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Projects & Quality manager :

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X. GUARANTEE

Our material is guaranteed for one year, parts and labor, against any manufacturing defect, functional failure or abnormal wear. This guarantee covers only the replacement of parts recognized to be defective as well as the repair of the material in question returned shipping paid to our workshops, and excludes all damages and interest or incidental expenses.

The starting point of the guarantee is the date of invoice of the concerned product. The invoice must be provided for any request for application of the guarantee. Repairs under guarantee in no way extend the guarantee period accorded to the product at the time of sale. Deterioration due to any abnormal usage or to storage under adverse environmental conditions is excluded from our guarantee.

XI. MAINTENANCE CONTRACT

How best to optimize your radiofrequency installation?

Radiofrequency measurement systems communicate through Hertzian waves. Many factors (change in installation, moving, supplemental wall, interference with another radio system...) can nonetheless modify the radio pathway previously defined. The use of radiofrequency thus requires periodic monitoring by recognized specialists.

It is for this reason that JRI has developed for you the maintenance contract. We simplify your procedures by offering you a fully-integrated solution. This global service offer includes both maintenance and a metrological service, ensuring the optimum functioning of your devices or of your installation.

You'll no longer have to worry about the maintenance of your devices!

This maintenance contract allows you to benefit, for a minimum period of 2 years, from a variety of services such as:

- annual or biannual verification of the material
- an extension of the guarantee
- telemaintenance
- telephone assistance **+33 (0) 892 680 933** (0,282 € HT/min)
- replacement of the material onsite or by a return to the factory
- verification of measurement accuracy (metrological certificate)
- battery replacement
- access to new software versions
- intervention within 48 working hours following identification of the fault by our experts

XII. ENVIRONMENTAL PROTECTION

JRI recommends to its customers the disposal of their unusable and/or irreparable measurement and recording materials in a manner compatible with the protection of the environment. As the production of waste materials cannot be avoided, these should be reused through the recycling process best adapted to the considered materials and to the protection of the environment.

RoHS Directive

The RoHS European directive regulates and limits the presence of dangerous substances in electronic and electric equipment (EEE).

All new electronic equipment designed, developed and manufactured by JRI are in compliance with the aforementioned Directive 2002/95/CE.