USB/PDF RECORDER SPY TOUCH

USER MANUAL
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I. PRESENTATION

1) Presentation

You just purchased an innovative and high quality recorder from JRI’s range and we thank you for that.

The device is a T° or T° and RH% recorder with two inputs and able to manage local or remote alarms and deliver automatically a PDF report. Equipped with a color touch sensitive screen, the recorder allows to configure the device and display the information from it. It is also possible to configure the device as well as transferring recorded measurements to a computer equipped with Sirius Lite software thanks to a USB flash drive.

Using the USB flash drive supplied with the device, it is possible to configure the recorder or to upload recorded measurements to a PC to save and manage data with the Sirius software range and also to edit the PDF report. In the USB Flash drive you will find a special Sirius Lite Limited Edition dedicated to USB recorders.

The recorder is compatible with Sirius Lite 2.0, Sirius storage 2.1 software used with the RF recorders: SPY RF range.

2) Equipment:

- 1 recorder
- 1 PT100 or no sensor depending on the model
- 1 USB flash drive including:
  - the device user manual,
  - the software user manual
  - 1 Sirius Lite Limited Edition software
  - Language files

Make a copy of these files to prevent losing them.

3) Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Recycling]</td>
<td>RECYCLING: do not throw in a rubbish dump or in a domestic waste container. Comply with the regulation to throw away the device.</td>
</tr>
<tr>
<td>220V-240V 50Hz-60Hz 0.2A</td>
<td>POWER SUPPLY: this device is powered with alternative voltage in 230VAC. Comply with the security and utilization regulations of electric power. Use an electric installation complying to these regulations</td>
</tr>
<tr>
<td>100-130V 50Hz-60Hz 0.2A</td>
<td>POWER SUPPLY: this device is powered with alternative voltage in 117VAC. Comply with the security and utilization regulations of electric power of USA. Use an electric installation complying to these regulations</td>
</tr>
<tr>
<td>![CE Mark]</td>
<td>CE MARKING: this equipment is certified to comply with the European regulation for the electric security, inflammability, disturbing radiation emission and immunity to surrounding electric disturbances.</td>
</tr>
<tr>
<td>![Fuse]</td>
<td>INTERNAL FUSE: 0.25A. Cut off power L250V</td>
</tr>
</tbody>
</table>
## 4) Technical features

<table>
<thead>
<tr>
<th>Designation</th>
<th>USB recorder U without sensor</th>
<th>USB recorder U with sensor</th>
<th>USB recorder N</th>
</tr>
</thead>
</table>
| Measurement range | -196 to +184°C
-320.8°F to +363.2°F | -55 to +120°C
-67°F to +248°F | T°: -196 to + 80°C / TH : -30 to +70°C / 0 to 100%RH non condensed  
T°: -320,8°F to +176°F and TH : -22°F to +158°F / 0 to 100%RH |
| Accuracy | ±0.2°C full range + sensor MPE  
±0.36°F Full range + sensor MPE | ±0.3°C from -20 to +50°C / ±0.5°C outside  
±0.6°F from -4 to 122°F / ±0.9°F outside | T: ±0.3°C from -20 to +30°C & ±0.5 outside  
T: ±0.6°F from -4 to 86°C / ±0.9°F outside  
Deep Freeze: -196 to 0°C / ±0.5 below  
Deep Free: -320°F to 32°F / ±0.9°F outside  
RH at 23°C: ±2%RH from 20 to 80%RH, ±4% above |
| Rated operating conditions | +5°C to +40°C (+41°F to 104°F) & from 0 to 80% RH | | |
| Resolution | 0,1°C | | |
| Inputs | PT100 + On or Off  
Flat cable PT100 connected and adjusted + On or Off | 1 Digital T +On or Off  
2 Digital °T (without On or Off)*  
1 Digital T and 1Digital RH (without On or Off) | |
| Output | Relay dry contact 30V~CAT I NO/NC (Normaly Open or Close) | | |
| Power supply | Europe: Main power supply 220-240VAC – 50Hz-60Hz 0,2A - Maximum voltage switching 300V CAT II  
USA : Main power supply 100-130VAC – 50-60Hz 0,2A Maximum voltage switching 300V CAT II | | |
| Power backup | Battery type: 9V 6LR61*  
Battery life : 6H Alkaline / 100H Lithium (option) | | |
| Interval of measurement | 10s to 120min | | |
| Memory | 40000 data per input | | |
| Alarm | Sound and visual | | |
| Dimensions | 161x84x60mm | | |
| Protection degree | IP 20 | | |
| Compliance | EN 12830 | | |
| Storage and transportation conditions | -20°C to 60°C (5°F to 140°F) and 0 to 80% RH | | |
| Max height of use | < 2000m | | |

*Not supplied

## 5) Connecting sensors

Connection or opening the device must be done by a technical with electrical ability. It is absolutely necessary to cut the main power supply of the device before connecting the output.

If the cutting system is a plug, it must be accessible. Otherwise a cutting system must be installed close to the device (circuit breaker with 1A 250VAC 50Hz cutting power).

### a) Descriptive

<table>
<thead>
<tr>
<th>Voies</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>
| USB Recorder U | PT100  
PT100 | -  
On or OFF (NO - NC - OFF) |
| USB recorder N | TH digital sensor*  
T or Deep Low T digital sensor  
T or deep low T digital sensor | -  
On or OFF (NO - NC - OFF)  
T or deep low T digital sensor |

NO= normally open NC= normally closed  
*Metal digital TH probe only
c) **Entrées / Sorties**

**Recorder USB U**

**Recorder USB N**

- **Wiring plan**

- **Inputs configuration**

**Input 1 (S401)**

<table>
<thead>
<tr>
<th>PT100</th>
<th>PTC</th>
<th>T Num</th>
<th>TH Num Voie T</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="chart1.png" alt="PT100" /></td>
<td><img src="chart2.png" alt="PTC" /></td>
<td><img src="chart3.png" alt="T Num" /></td>
<td><img src="chart4.png" alt="TH Num Voie T" /></td>
</tr>
</tbody>
</table>

**Input 2 (S301)**

<table>
<thead>
<tr>
<th>Entrée TOR</th>
<th>T Num</th>
<th>TH Num voie H</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="chart5.png" alt="Entrée TOR" /></td>
<td><img src="chart3.png" alt="T Num" /></td>
<td><img src="chart6.png" alt="TH Num voie H" /></td>
</tr>
</tbody>
</table>

By default « USB Recorder N » are configured in for 2 digital T°C.

- **PT100 sensor (Input 1)**

- **Digital temperature or Deep low sensor**

- **Digital RH sensor**

To measure the temperature and humidity, the TH digital metal probe* is connected to the channel 1 connector, thanks to the 10cm cable supplied, but the 2 channels of the recorder are used. It is impossible to connect anything on channel 2. (The white TH sensor is not compatible anymore)
Switch sensor

On Spy Touch U

Use black and brown wires to connect the switch

Relay output

The recorder is equipped with a relay output to send remote alarms

Contact characteristics:
- Maximum switching voltage: 30VDC
- Maximum switching current:
  - DC: 1A
  - DC: 0.5 A L/R=7ms
- Minimum admissible: 0.01mA for 10mVDC

Power supply:

A 1A 250V cut out is necessary on the 230VAC 50 Hz power supply of the device.

6) Réserve de courant:

The battery will take over when there is power outage. This battery is 6LR61 9V alkaline type. The battery life is 50 hours and the Spy Touch changes its operation mode (sleeping) to reduce energy consumption. Then:
- the icon is displayed mains failure,
- LCD screen freezes and displays the last value,
- the backlight turns off,
- if the buzzer stops en route,
- the no longer detects the USB key,
- the Spy Touch is awakening every 5 minutes,
- the measurement period is 5 minutes if it was 10s or 1 minute audela she rest unchanged.
- the displayed value is refreshed every 5 minutes and the battery level indicator.
- if the buzzer sounded before the power failure, the buzzer will sound (about 2s) at each awakening.
- the alarm relay operates normally during a power outage.

Optionally it is possible to obtain a battery life of 100h using a lithium battery 9V 6LR61.
II. DEVICE USE

1) Principle

The recorder is equipped with a touch sensitive screen. To configure the recorder or consult the measurements it is enough to touch the screen with the finger or a pen point on the desired area to switch from one choice to another. The screen is divided into 4 different areas.

The most sensible part of the screen is close to the center each areas.

⚠️ It is not necessary to press strongly on the screen, especially with a pencil, not to damage it.

2) Symbols meaning

- Back to main screen / Back to previous screen
- Configuration
- Alarm setting
- History
- Profile choice
- Recording in progress (visible 3 sec at each measurement interval)
- Device powered (main supply)
- Device under battery backup (Backlight is off to save battery)
- Battery Level
- Memory filling up

3) Display

Power supply off

Inhibited alarm

OK

alarm delay in progress

Technical alarm and probe error

threshold overstepped alarm

Beware: When the Spy Touch is powered for the first time it invite the user to choose the date format (dd/mm/yy or mm/dd/yy). Once the choice is made, the only way to change it again is to remove any power supply (main and battery).
a) **First use**

- **Erase**: Erase the memory at the next start of recording
- **Continue**: records the new measurement after the existing ones in the memory

➢ **Changing language**

After entering date and time, insert the USB flash drive in the device USB port and enter the administrator code (1111). Then follow the instruction (see USB Flash drive section)

b) **Access to the configuration menu**

c) **Configuration Menu**

To access the choices press the relevant icon

d) **Access rights**

- **Administrator**: all rights for modifications or actions
- **User**: Upload data with USB flash drive
  - Configuration of user password
  - Alarm acknowledgement
e) **Configuration**

To enter the code choose the number using the arrows and validate digit by digit.

- **Administrator mode**
  The configuration of the recorder is only possible using administrator rights.
Rolling memory:
The recorder will never stop. The oldest values are replaced by the new one. Upload regularly the memory to prevent losing data.

Not rolling memory:
The recorder stops when the memory is full.

The administrator can create 10 different users (id=0 to 9). He can define 5 administrator profiles and 5 user profiles. This allows tracing acknowledgement in Sirius.
f) **Access code management**

A password allows to identify a person so each password is individual and can't be used twice. If necessary, the password can be changed. To change the password, proceed as follows:

- Select the id number of the user and validate
- Enter the current user password and validate
- Enter the new password and validate
- Then confirm the new password and validate

There are 2 default passwords in the Spy Touch:

- **User**: Id “0” pwd 0000
- **Administrator**: Id “5” pwd 1111

g) **History of measurements**

History of measurement is accessible without any password

A PDF report is generated when transferring data on the USB stick. The history of the measurements is no longer available on the Spy Touch.

Historical statistics can be displayed either since the last dump or since the last reset. The display will show:

- **For stats history**
  - The date and time of the last dump or the last reset
  - The number of measurements since the last dump or last reset:
    - Max 26000 last measures rotating memory mode (if memory turned)
    - Max 40000 last measures rotating memory mode (if memory has not turned) or memory full stop mode
  - The Min, Max and Average
To alarm history
The date and time of the last dump or the last reset
The alarm time entered in years / months / days / hours / minutes / seconds.

III. DISPLAY

1) One channel display
If the channel 2 configuration is set « OFF »
The screen displays channel 1 continuously

2) Two Channel display
Channel 2 configured for T or H measurement
Channel 2 configured for dry contact

 IV. ALARM MANAGEMENT

1) Alarm working
The Recorder manages two types of alarms:
Threshold alarms
Technical alarms. Technical alarms have priority on threshold alarms

A color code is dedicated to each alarm types:
Red = Alarm following a threshold overstep
Yellow = Alarm following Technical alarm release.

The other colors of screen backlight are:
Green = Temperature OK / Normal status / visual alarm activated
Blue = alarms inhibited
Violet = Alarm delay in progress
White = No alarm programmed or no visual alarm programmed
2) Threshold alarm management

Glossary

HT: High Threshold
S: Sound
R: Relay
\(\nearrow\): Sound off (stop buzzer)
\(\nearrow\): Relay off

a) **Stop buzzer**

➢ **Threshold overstep**

The 3 alarms are activated: visual (backlight on), sound (buzzer on), and Relay.

Conclusions:
The buzzer stops after pressing \(\nearrow\), but turns on again if the temperature oversteps the threshold again. It is the same for the low threshold.

➢ **Delayed alarm**

The 3 alarms are activated: visual (backlight on), sound (buzzer on), and Relay.
The delay of alarm is programmable through the configuration menu from 0 to 90 minutes.

Conclusions:
The Alarm delay is identified by a violet backlight color (no sound, no relay). After an acknowledgement, the backlight turns to green less than 1 second if the temperature is still above the high threshold. It is the same for the low threshold.

b) **Acknowledgement**

➢ **Threshold overstep**

The 3 alarms are activated: visual (backlight on), sound (buzzer on), and Relay.

Conclusions:
The Acknowledgement is identified by a violet backlight color (no sound, no relay). After an acknowledgement, the backlit turns to green less than 1 second if the temperature is still above the high threshold.
Conclusions:
After the acknowledgement, the recorder comes back to normal but only if the problem has been corrected and the temperature has returned below the high threshold. It is the same for the low threshold.

➢ **Delayed alarms**

The 3 alarms are activated: visual (backlight on), sound (buzzer on), and Relay

The delay of alarm is programmable through the configuration menu from 0 to 90 minutes

Conclusions:
The Alarm delay is identified by a violet backlight color (no sound, no relay). After an acknowledgement, the backlight turns to green less than 1 second if the temperature is still above the high threshold. It is the same for the low threshold.

c) **Inhibit**

The 3 alarms are activated: visual (backlight on), sound (buzzer on) and Relay

Conclusions:
Inhibit stops all the activated alarms. Activation must be done to restore normal settings and remove alarm inhibitions. It is the same for the low threshold.

3) **Technical alarm**

The 3 alarms are activated: visual (backlight on), sound (buzzer on) and Relay

Technical alarms are:

- NO_SENSOR_CH1
- NO_SENSOR_CH2
- BATTERY_ALARM
- FULL_MEM_ALARM
- PARAM_TAB_DEFAULT
- NO_GAUGING
- MEMORY_FAILURE

Alarm management for no sensor on ch1 or 2, full memory, no gauging and memory failure alarms:
Conclusions:
Priority is given to technical alarms and is deleted only if the reason of alarm has disappeared. In the example of full memory alarm the yellow backlight will change when the memory has been uploaded. It is the same for the low threshold.

4) Main power supply alarm:

Conclusions:
For the power supply alarm, the backlight turns off to save the battery backup energy but the sound and relay alarms run correctly. It is the same for the low threshold.

V. START AND STOP RECORDING
To start or stop recording of measurements, go through “Configuration…Internal settings” then select start or stop recording.

VI. CLEANING
The device can be cleaned with a dry duster. Do not humidify the device.
VII. REPLACING BATTERY

Open the battery housing and replace the battery (6LR61 9V). Do not remove the recorder power supply to keep the data stored inside the memory.

**We recommend to replace the battery as a preventive every 12 month or after 1 hour main supply cut off.**

VIII. USB FLASH DRIVE

The USB flash drive is a peripheral allowing to configure the device, to upload the memory, and to perform other operations like changing the language of the device menu. The different possibilities are accessible using a password.

To configure the Spy Touch using the USB flash drive it must be equipped with Sirius Lite (Limited Edition stored in the Flash drive, Sirius Lite 2.0 or Sirius storage 2.0).

5) USB flash drive menu

![USB flash drive menu diagram]

Note: If an error code appears on the screen during flash drive use, then try the following operations:
- Check that it is not full. In this case download the files with Sirius Lite Limited Edition and try again
- If it is not full then replace the USB flash drive and try again
# IX. CAPACITY OF OPERATION DATA SHEET

## JRI - Maxant

**FICHE D'APTITUDE A L'EMPLOI SELON LA NORME 12830**

*Capacity of operation compliant to EN12830*

<table>
<thead>
<tr>
<th>Essais</th>
<th>§ norme</th>
<th>Caract.</th>
<th>Documents ou rapports d'essais</th>
</tr>
</thead>
<tbody>
<tr>
<td>Détermination de l'erreur de la mesure de la température.</td>
<td>5.3</td>
<td>±1°C</td>
<td>Procès verbal d'essais JRI REMTF01003 du 04/06/2010</td>
</tr>
<tr>
<td>Détermination du temps de réponse.</td>
<td>5.4</td>
<td>56 sec</td>
<td>Procès verbal d'essais JRI REMTF01003 du 04/06/2010</td>
</tr>
<tr>
<td>Détermination de l'erreur relative de l'enregistrement du temps.</td>
<td>5.5</td>
<td>0.004%</td>
<td>Procès verbal d'essais JRI REMTF01003 du 04/06/2010</td>
</tr>
<tr>
<td>Variation de la tension d'alimentation.</td>
<td>5.6.2</td>
<td>230Volts</td>
<td>Procès verbal d'essais JRI RECC09025 du 17/09/2009</td>
</tr>
<tr>
<td>Enregistreur soumis aux températures assignées</td>
<td>5.6.3.3</td>
<td>+5°C à +40°C</td>
<td>Procès verbal d'essais  JRI REMTF01003 du 04/06/2010</td>
</tr>
<tr>
<td>Influence de la température ambiantes.</td>
<td>5.6.4</td>
<td>-20°C à +60°C</td>
<td>Procès verbal d'essais JRI REMTF01003 du 04/06/2010</td>
</tr>
<tr>
<td>Enregistreur soumis aux températures limites</td>
<td>5.6.5</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Résistance aux chocs.</td>
<td>5.6.6</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vibrations mécaniques.</td>
<td>5.6.7</td>
<td>IP20 EN 60529</td>
<td>Procès verbal d'essais JRI RECC00007 du 07/06/2010</td>
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<tr>
<td>Sécurité électrique</td>
<td>5.6.8</td>
<td>EN61010-1 Ed 2001</td>
<td>Rapport d'essais EMITECH RL09101569-01-A</td>
</tr>
<tr>
<td>Rigidité diélectrique.</td>
<td>5.6.9</td>
<td>N.A.</td>
<td></td>
</tr>
<tr>
<td>Compatibilité électromagnétique.</td>
<td>-</td>
<td>EN61000-6-1 EN61000-6-3 Ed 2007</td>
<td>Rapport d'essai CEM EUROCEM : RE-09-70259-1/A du 28/01/2010</td>
</tr>
</tbody>
</table>

**Pour JRI Maxant**  
**Le Directeur Technique et Qualité :**  
*Technical and quality manager:*

*Date : 05/07/2010*

**JRI Maxant**, société par actions simplifiée au capital de 4 000 000 €  
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X. WARRANTY

JRI products carry a one year warranty and guarantee against defects in their components or workmanship.
During this period if any product supplied by the Company proves on inspection to be defective, the Company will at its own option replace the same or refund to the Buyer the price of the product. In no circumstances will JRI' liability exceed the price of the product paid by the buyer or the cost of replacement.
JRI shall not in any event be liable to the Buyer for any indirect or consequential loss or damage costs or expenses whatsoever which might arise out of or in connection with the supply of the product or its consequent use.
Consequently, the products warrantee and guarantee specified above, does not cover damage caused by fair wear and tear, abnormal storage conditions, incorrect use, accidental misuse, abuse, neglect, misapplication or modification, or use with non-JRI' hardware/software. No warranty of fitness for a particular purpose is offered and the user assumes the entire risk of using the product.
In line with our policy of continuous development, we reserve the right to amend our product specification without prior notice.

XI. ENVIRONMENT PROTECTION

JRI recommends to our customers to throw away their measuring and recording devices which are unserviceable and/or beyond repair in a way that is appropriate to environment protection. Insofar as the production of waste cannot be avoided, it is best to re-use them by proceeding with adapted recycling depending on the material used and considering the environment protection.

RoHS Directive
The ROHS European Directive rules and limits the presence of hazardous substances in electrical and electronic equipments (EEE).
In the article 2, the scope of this Directive excludes "9. Monitoring and Control Instruments" and our products are part of this category.
Nevertheless, our company has decided to apply the whole dispositions of this Directive for all our new electronic devices which will comply to this 2002/95/CE Directive.