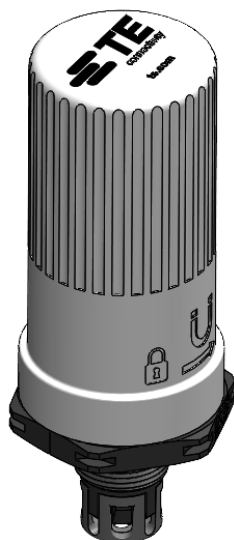


IoT Wireless Humidity Sensor Installation Manual

LoRa & BLE



- **US Coverage**
 - ANSI/UL 60079-0-2020
 - ANSI/UL 60079-11-2018
 - ANSI/UL 913-2019
 - UL 61010-1, 3rd Edition (2012) + AMD1:2018
 - FCC Certified
- **Canadian Coverage**
 - CSA C22.2 No. 60079-0:19
 - CAN/CSA C22.2 No. 60079-11:14
 - CAN/CSA C22.2 No. 61010-1-12 + Update No 1:2015 + Update No 2:2016 + AMD1:2018
 - ISED Certified
- **European Coverage**
 - EN IEC 60079-0:2018
 - EN 60079-11:2012
 - IEC 61010-1:2010, IEC 61010-1:2010/AMD1:2016
 - RED Compliant
- **IECEx Coverage**
 - IEC 60079-0:2017 Edition: 7.0
 - IEC 60079-11:2023 Edition 7.0
- **Radio Frequency Communication**
 - Bluetooth® Qualified
 - LoRaWAN® Certified

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Environmental Information

Ambient Temperature -30 °C to + 75°C

IP67

Electrical

SUPPLY: 3.6V / 4µA–35mA

RF

FCC ID: 2A85PA5XX1N

ISED ID: 29620-A5XX1N

HVIN: 5

Models 5911N Frequency

915MHz for US and 868MHz for EU

Explosive Atmospheres Designations for Models 5X11N-EX Series

Equipment to be used in explosive gas atmosphere group IIC with EPL Ga (Zone 0).

US and Canada:

XXXYYCANNNNNNNNX

IS CL I, DIV 1, GRP A, B, C, D, T4

CL I, ZN 0, AEx ia IIC T4 Ga

ATEX:

TÜV 23 ATEX 9051 X

 II 1 G, Ex ia IIC T4 Ga

IECEx:

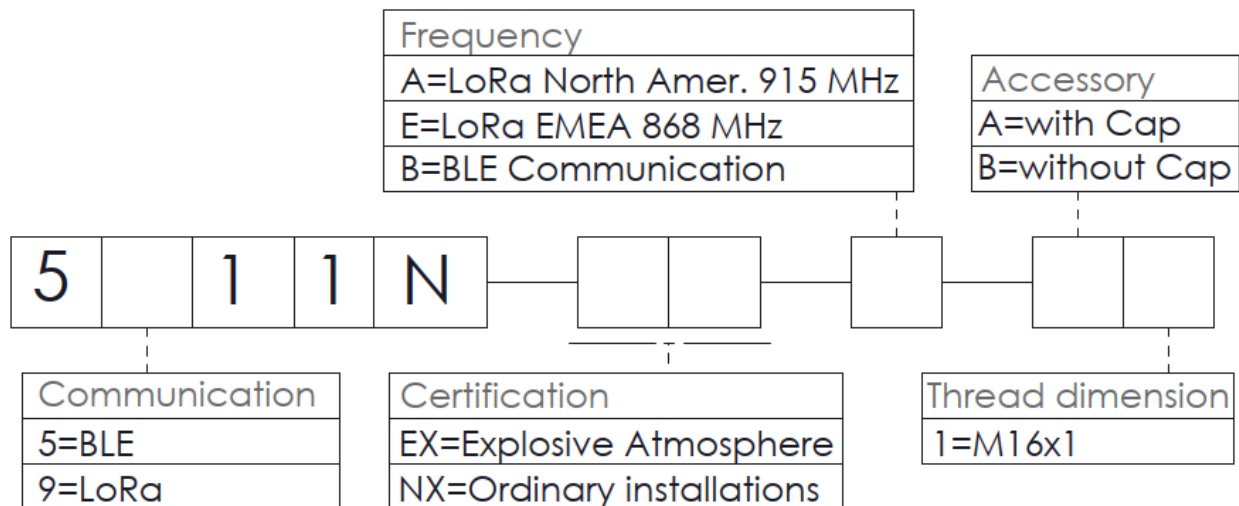
IECEx TUR 23.0046X

Ex ia IIC T4 Ga

REVISION OF THE DOCUMENT

Release Date	Change Description	Rev.	Prepared by	Reviewed by	Appr. ENG
27/04/2023	Initial release	1.0	Adel BEN ABDELKADER	Juan GREZ	Nicolas PECQUET
25/07/2024	Update WEEE symbol, sensor mounting torque and intrinsically safe drawing.	2.0	Adel BEN ABDELKADER	Juan GREZ	Nicolas PECQUET
30/08/2024	Add option 2 for the sensor activation, update "condition for use safe" paragraph.	3.0	Adel BEN ABDELKADER	Juan GREZ	Nicolas PECQUET

Sensor Model Number Construction



Notes:

Frequency options A and E available only for Communication option 9 LoRa

Frequency option B available only for Communication option 5 BLE

WARNING & IMPORTANT SAFETY INSTRUCTIONS



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

ELECTRICAL INSTALLATION (Raccordement électrique)

⚠ WARNING Suitable for use in Class I, Division 1, Groups A, B, C and D Hazardous Locations, or Non-Hazardous locations only.

(AVERTISSEMENT) Uniquement adapté à un usage dans les Zones dangereuses de la classe 1, division 1 des groupes A, B, C, et D ainsi que dans les zones non dangereuses.

⚠ WARNING EXPLOSION HAZARD: Substitution of components may impair suitability for Class I Division 1

(AVERTISSEMENT) Risque d'explosion - Remplacement d'un composant peut empêcher la conformité de Classe I, Division 1.

⚠ WARNING POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE SPECIFIC CONDITIONS OF USE IN INSTRUCTIONS.

(AVERTISSEMENT) DÉCHARGE POTENTIEL ÉLECTROSTATIQUE HAZARD- VOIR LES INSTRUCTIONS

⚠ WARNING To prevent ignition of flammable or combustible atmospheres, read, understand, and adhere to the manufacturer's live maintenance procedures.

(AVERTISSEMENT) Pour éviter l'inflammation des atmosphères inflammables ou combustibles, lisez, comprenez et respectez les procédures de maintenance en direct du fabricant.

⚠ WARNING Stop the sensor operation if plastic cover is broken, deformed or absent, ensure S/N match between sensor Hex and plastic Cover label.

(AVERTISSEMENT) Arrêtez le fonctionnement du capteur si le couvercle en plastique est cassé, déformé ou absent, assurez-vous que le numéro de série correspond entre le capteur Hexa et le boîtier en plastique.

⚠ WARNING FOR MODEL 5X11N SERIES USE ONLY SAFT (LI-SOCl₂) LS17330. Do not attempt to open, service or disassemble the battery, do not short circuit. It may explode if disposed in fire.



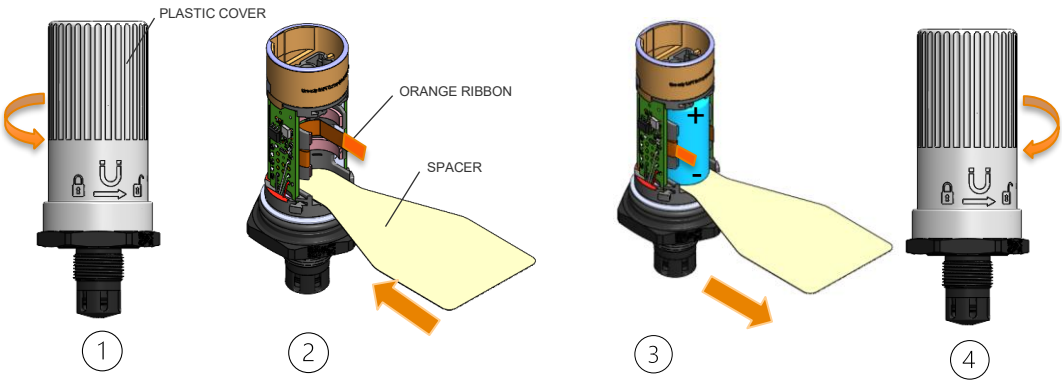

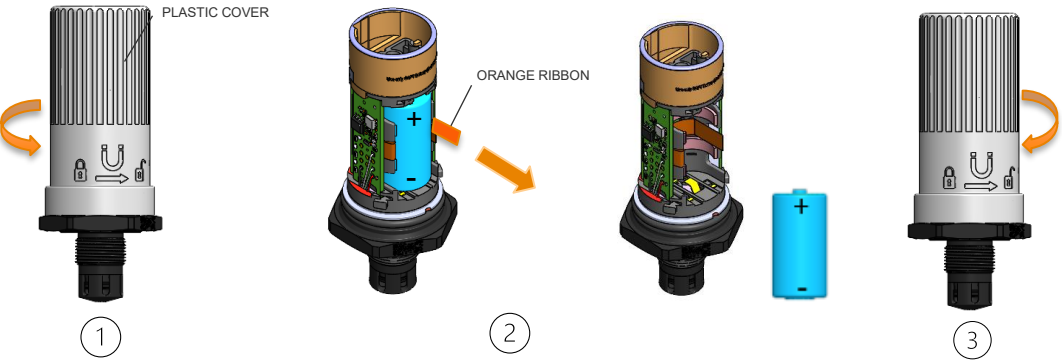
(AVERTISSEMENT) POUR LES MODÈLES DE LA SÉRIE 5X11N UTILISEZ UNIQUEMENT DES PILES SAFT (LI-SOCl₂) LS17330. N'essayez pas d'ouvrir, de réparer ou de démonter la batterie. Ne court-circuitez pas. Il peut exploser s'il est jeté au feu.

Conditions for Safe Use



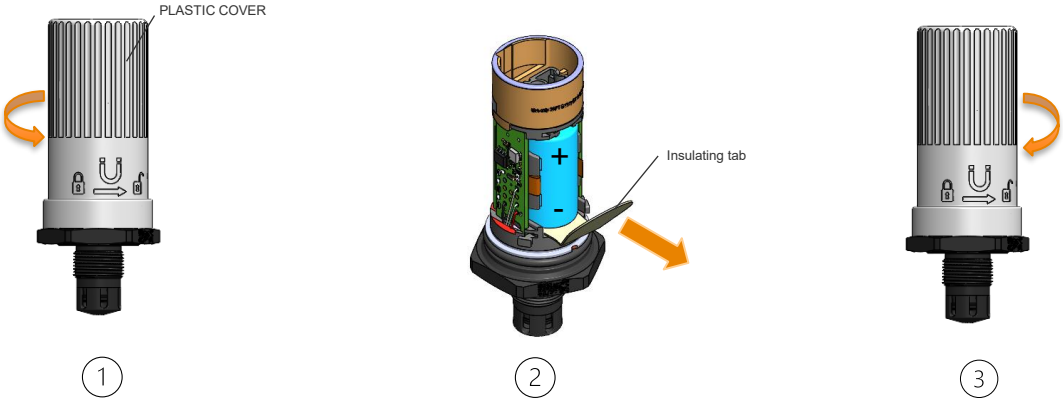

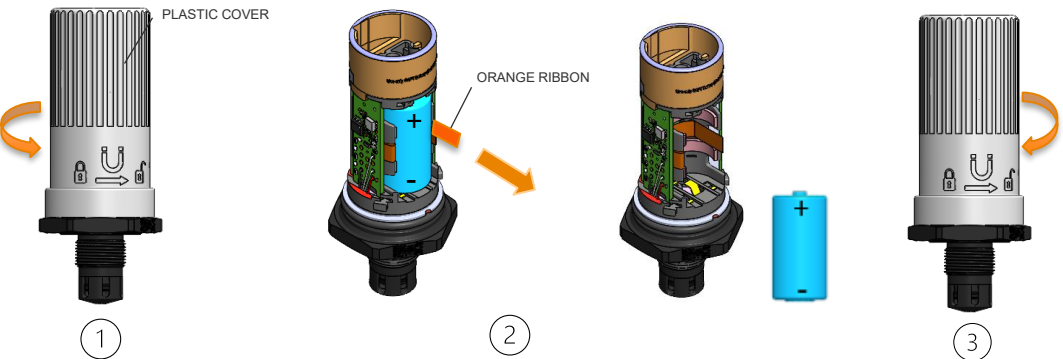
1. The non-metallic parts incorporated in the enclosure may generate an ignition-capable level of electrostatic charge. Upon installation, care shall be taken to avoid location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth or touched with an insulating object only.
2. Use only 3.6 V SAFT battery LS17330 Primary lithium-thionyl chloride (Li-SOCL₂) 2/3 A-size bobbin cell.
3. It is only allowed to remove the insulating tab, install or replace the battery in non-hazardous areas.

SENSOR ACTIVATION AND BATTERY REPLACEMENT

Option 1: Battery not installed in the sensor

<p>PRECAUTION</p> 	<p>Before installation, please verify that the product matches its intended use.</p>
<p>BATTERY INSTALLATION</p> 	<ol style="list-style-type: none"> 1. Remove the plastic cover following the opening direction. 2. Put the spacer on negative terminal before install the battery. Put the orange ribbon back to the cavity before install the battery. Install the Battery positive upward. 3. Pull the spacer out after install the battery. 4. Install the plastic cover and tighten it following the locking direction. 
<p>BATTERY REMOVAL</p> 	<ol style="list-style-type: none"> 1. Remove the plastic Cover following the opening direction. 2. Using the orange ribbon to pull out the battery. Put the orange ribbon back to the cavity before install cover. 3. Install the plastic cover and tighten it following the locking direction. 

Option2: Battery installed in the sensor

<p>PRECAUTION</p> 	<p>Before activating the sensor, please verify that the product matches its intended use.</p>
<p>Remove the insulating tab from battery compartment</p> 	<ol style="list-style-type: none"> 1. Remove the plastic cover following the opening direction. 2. Pull out the insulating tab under the battery contact. 3. Install the plastic cover and tighten it following the locking direction. 
<p>BATTERY REMOVAL</p> 	<ol style="list-style-type: none"> 1. Remove the plastic Cover following the opening direction. 2. Using the orange ribbon to pull out the battery. Put the orange ribbon back to the cavity before install cover. 3. Install the plastic cover and tighten it following the locking direction. 

Follow these steps:

Option 1:

- Carefully lift the plastic cover off in a straight direction to avoid damage to internal components.
- Avoid touching any portion of the PC boards or electronic components.
- Push the battery removal strip into the battery compartment so the new battery will sit on top of it.
- Hold the battery spacer so the narrow end covers the negative (-) battery contact electrode (nearer to the hex end of the device).
- Insert the battery (negative end first) so it traps the spacer between the negative battery contact and the negative electrode on the battery.
- Slowly push the positive electrode end of the battery into the battery compartment until it's fully seated.
- Holding the battery in place, slowly extract the spacer from the negative electrode.
- A one second flash from the LED will indicate that the battery has been inserted properly.

Option 2:

- Carefully lift the plastic cover off in a straight direction to avoid damage to internal components.
- Avoid touching any portion of the PC boards or electronic components.
- Holding the battery in place, slowly pull out the insulating tab from the battery contact.
- A one second flash from the LED will indicate that the battery has been inserted properly.

Install the cover

- Orient the plastic cover so the unlock index mark aligns with tab at the base of the sensor.
- Slide the plastic cover down so it fits tightly against the O-ring seal above the hex.
- Rotate the plastic cover clockwise until the locked index mark aligns with the position of the base tab.

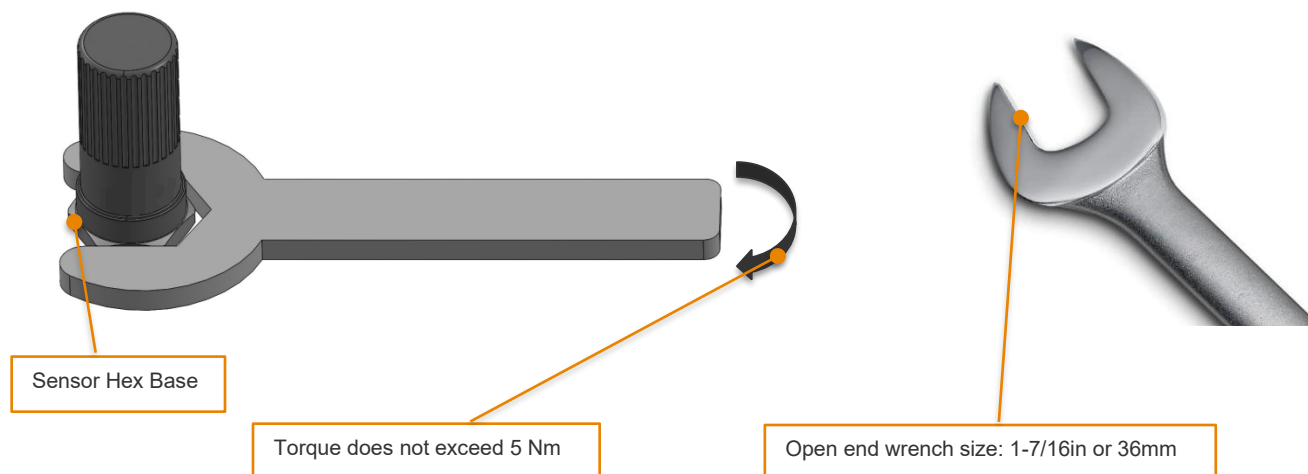
Caution: The plastic cover is tightly matched with Base/O-ring, so some resistance might be felt on rotation.

Warning: Ensure S/N match between sensor Hex and plastic cover label.

Warning: It is only allowed to remove the insulating tab, install or replace the battery in non-hazardous areas.

SENSOR MOUNTING

The Humidity sensor should be installed in a clean and compatible thread, with enough room to allow the use of an open-end wrench/spanner. The mounting torque for the sensor does not exceed 5 N-m.



WARNING – Do NOT tighten the sensor by twisting on the housing. Damage to the sensor WILL occur. Tighten to the correct torque using a wrench on the hex base.

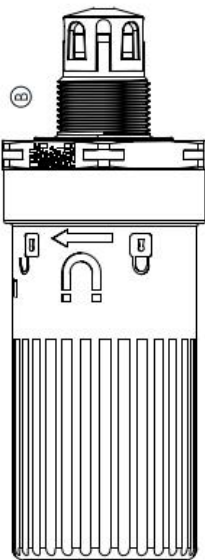
WARNING – Install in a process connection with enough room to allow the use of Spanner/Wrench.

WARNING – To reduce the risk of burns or frost bite, wear protective personal equipment when installing or removing from high or below-freezing temperature process or environments.

20029500-15 Intrinsically safe drawing

Hazardous Location

IS Class I, Div 1, Groups A, B, C and D;
Class I Zone 0, AEx ia IIC T4 Ga;
Ex II IG Ex ia IIC T4 Ga



5X11N: Wireless Humidity and Temperature Sensor model (with the accessory Cap mounted)

Notes:

1. Canadian Installations should be in accordance with Canadian Electrical Code, Part 1. U.S. Installations should be in accordance with Article 504 in the National Electrical Code, ANSI/NFPA 70.
2. See installation manual for more instructions.
3. Ex rated document, no changes allowed unless authorized by Ex agency.

Specific Conditions of Use :

1. The non-metallic parts incorporated in the enclosure may generate an ignition-capable level of electrostatic charge. Upon installation, care shall be taken to avoid location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. Additionally, the equipment shall only be cleaned with a damp cloth or touched with an insulating object only.
2. Use only 3.6V SAFT LS17330 Primary Lithium-thionyl chloride (Li-SOCL2)2/3 A-size bobbin cell.
3. It is only allowed to remove the insulating tab, install or replace the battery in non-hazardous areas.

WARNING -- SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
AVERTISSEMENT - LA SUBSTITUTION DE COMPOSANTS PEUT NUIRE A LA SECURITE INTRINSEQUE

WARNING -- TO PREVENT IGNITION OF FLAMMABLE OR COMBUSTIBLE ATMOSPHERES, READ, UNDERSTAND AND ADHERE TO THE MANUFACTURER'S LIVE MAINTENANCE PROCEDURE.
AVERTISSEMENT - POUR EVITER L'IGNITION D'ATMOSPHERES INFLAMMABLES OU COMBUSTIBLES, LISEZ, COMPRENEZ, ET RESPECTER LA PROCEDURE D'ENTRETIEN EXIGEE PAR LE FABRICANT.

WARNING -- POTENTIAL ELECTROSTATIC CHARGING HAZARD -- SEE SPECIFIC CONDITIONS OF USE IN INSTRUCTIONS
AVERTISSEMENT - RISQUE POTENTIEL DE CHARGE ELECTROSTATIQUE - VOIR LES CONDITIONS D'UTILISATION SPECIFIQUES DANS LES INSTRUCTIONS

WARNING -- USE ONLY SAFT LS17330 BATTERY
AVERTISSEMENT - UTILISEZ UNIQUEMENT UNE BATTERIE SAFT LS17330

REV	A. DA CRUZ	27/04/2023	REVISION	N/A	REASON
REV	J. GREZ	12/05/2023	REVISION		
REV	N. PECQUET	12/05/2023	REVISION		
Intrinsically Safe Drawing For 5X11N-EX-X-11					
SCALE	1.5:1	REV	A3	20029500-15	
SHEET 1 OF 1					



Additional Notes:

- For more product information please refer to our website: www.te.com
- It is recommended to remove the battery if the sensor is not in use.

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