

INNO 318 User Manual

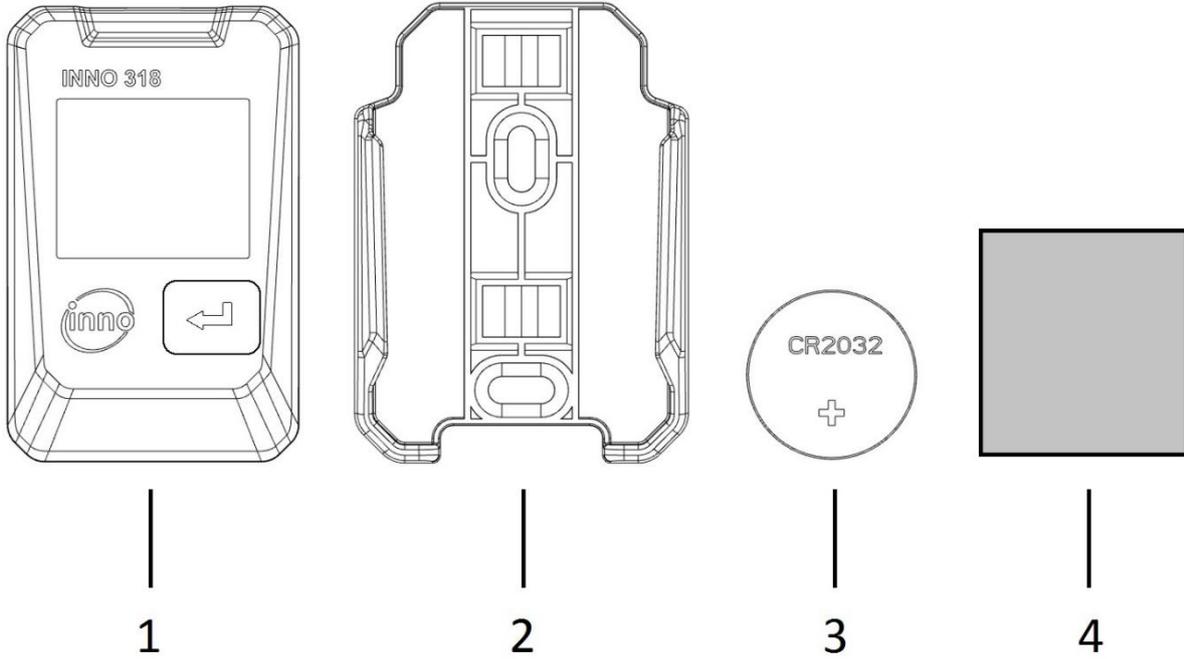
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Product Specification

Measuring range:	-35 °C to 75 °C
Temperature accuracy:	±0.3 °C (-15 °C ~ 75 °C) ±0.5 °C (-35 °C ~ -15 °C)
Resolution:	0.1 °C
Operation range:	-35 °C ~ 75 °C
Time accuracy:	3 mins / year
Memory:	130,599 temperature values
Recording interval:	60 seconds ~ 24 hours
Battery type:	1 pcs CR2032 Li battery 3V
Battery life:	550 days (15 mins measurement rate)
Protection class:	IP68
Size:	71.0 x 45.0 x 9.8 (mm)

Packaging List



1. 1 pcs INNO 318 instrument
2. 1 pcs INNO 318 wall holder
3. 1 pcs CR2032 Li battery 3V
4. 1 pcs double-sided adhesive tape

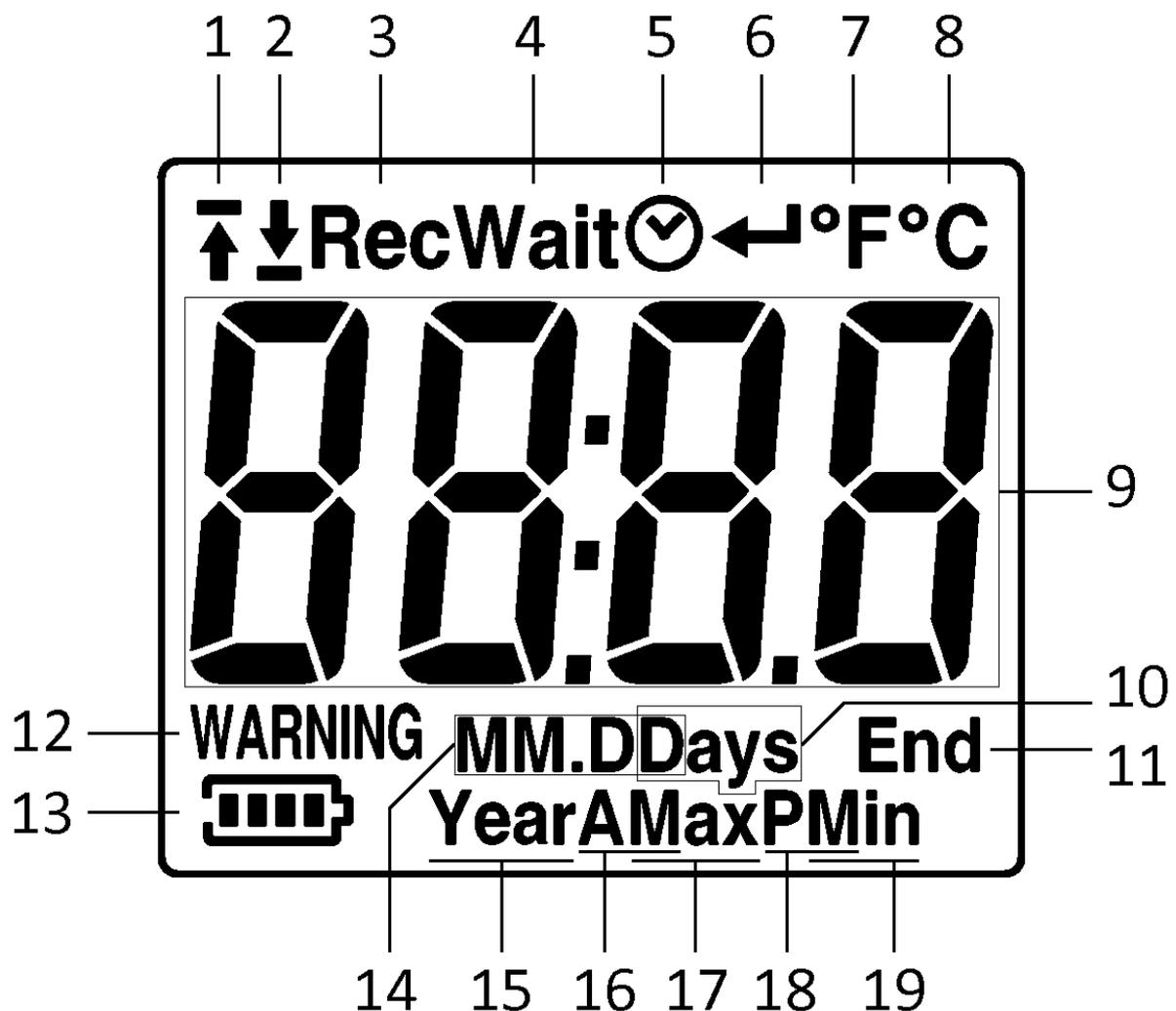
Important Notice (Must Read)

1. For battery replacement, it is a must to use a new and high quality CR2032 lithium battery for replacement. Otherwise the instrument cannot correctly estimate the battery life.
2. During replacing the battery, after the old battery is removed, the instrument still has residual power. Wait until the residual power of the instrument is completely exhausted, that takes about 5 seconds, and you can see the whole LCD screen is off. Then you can install a new battery. Otherwise the instrument will not recognize if a new battery has been replaced. If the remaining battery power is not exhausted and a new battery is installed, you can remove the battery again, and wait until the LCD screen is completely off, and install the new battery again.
3. After replacing the new battery, the first time connect the instrument to the application software, the software will remind the user that the battery has been replaced. Be sure to use a brand new battery.
4. After installing the battery, do not remove the battery, unless the battery is exhausted or the remaining battery capacity is too low that cannot complete the scheduled task. The action of removing the battery and then putting the removed battery back is equivalent to replacing the battery. The instrument will assume that a new battery has been replaced and the battery life is estimated with the new battery's power. In this case, the estimated battery life is not accurate.
5. Do not replace the battery in a humid environment, because high humidity air can enter the instrument through the battery compartment. The moisture inside the instrument may affect the operation of the electronics or cause rusting of the components.
6. When the instrument has just been used at low temperature

environment, do not replace the battery when the temperature of the instrument has not returned to room condition. It is because the relatively warm outside air will enter the instrument from the battery compartment, which can produce moisture when the warm air meet the cold parts inside the instrument that will adversely affect the instrument. Therefore, before replacing the battery, wait until the instrument returns to room temperature and remove the water from the surface of the instrument.

Usage Instructions

Screen Information



1. When the **↑** symbol is displayed, it means that the measured temperature is higher than or equal to the pre-set upper temperature limit. When the **↑** symbol flashes, it indicates that the value displaying on the screen now is the pre-set

upper temperature limit value.

2. When the  symbol is displayed, it means that the measured temperature is lower than or equal to the pre-set lower temperature limit. When the  symbol flashes, it indicates that value displaying on the screen now is the pre-set lower temperature limit value.
3. When the **Rec** symbol is displayed, it indicates that the instrument is in Recording Mode and the temperature is being recorded.
4. When the **Wait** symbol is displayed, it indicates that the instrument is in Wait Mode. If the  symbol is also displayed at the same time, it means that the instrument has been set to temperature-rise start recording method. When the measured temperature is higher than the pre-set value, it will change to Recording Mode and start temperature recording. If the  symbol is displayed at the same time, it means that the instrument has been set to temperature-drop start recording method. When the measured temperature is lower than the pre-set value, it will change to Recording Mode. If both the  symbol and the  symbol are displayed at the same time, it means both the temperature-rise and temperature-drop start recording method are enabled.
5. When the **Wait**  symbol is displayed, it indicates that the instrument is in Wait Mode, and the instrument has been set to time start recording method. As soon as the pre-set time has been reached, it will change to Recording Mode and start temperature recording.
6. When the **Wait**  symbol is displayed, it indicates that the instrument is in Wait Mode. The instrument has been set to key start recording method. As long as the button of the instrument is pressed and hold for longer than 3 seconds, it will change to Recording Mode and start temperature recording.
7. When the **°F** symbol is displayed, it means that the temperature unit is

Fahrenheit.

8. When the **°C** symbol is displayed, it means that the temperature unit is Celsius.

9.  It is the numerical display area.

10. The **Days** symbol displays, that the  symbol is flashing, that indicates the value displaying is the number of days the battery still can be used.

11. When the **End** symbol is displayed, it indicates that the instrument is in the End Mode, the instrument has completed the scheduled recording task.

12. The **WARNING** symbol is flashing, and the  symbol is displaying at the same time, that indicates the currently displaying value is the number of recorded temperatures which is higher than or equal to the pre-set upper temperature limit. The **WARNING** symbol is flashing, and the  symbol is displayed at the same time, that indicates the currently displaying value is the number of recorded temperatures which is lower than or equal to the pre-set lower temperature limit.

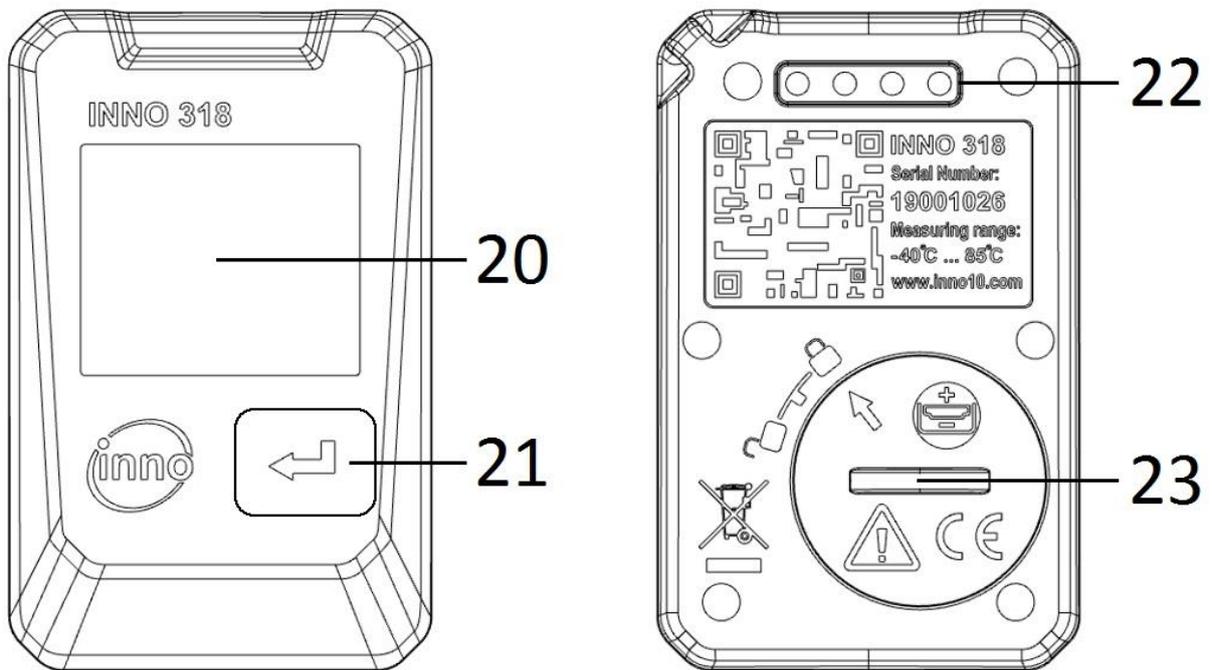
13.  It is the remaining battery capacity symbol.
- i.  The remaining battery capacity is available for more than 450 days.
 - ii.  The remaining battery capacity is available for 300 to 499 days.
 - iii.  The remaining battery capacity is available for 100 to 299 days.
 - iv.  The remaining battery capacity is available for 30 to 149 days.
 - v.  The remaining battery capacity is available for less than 29 days, the user should replace the battery.
 - vi. When there is only a  symbol on the screen, the button does not respond, that indicates the battery is too low and the instrument stops working.

14. When the **MM.DD** symbol is displaying, it means that the displaying numbers are the month and the day, the left two digits are the month, and the right two

digits are the days.

15. When the **Year** symbol is displaying, it means that the displaying number is the year.
16. When the **AM** symbol is displaying, it means that the displaying time is the morning time.
17. When the **Max** symbol is displaying, it indicates that the displaying value is the highest temperature that has been recorded. If the instrument is in the Measurement Mode, then the displaying value is the highest measured temperature value. If the maximum temperature value is higher than the operating temperature range of the instrument, it will display the **HI** symbol.
18. When the **PM** symbol is displaying, it means that the displaying time is the afternoon time.
19. When the **Min** symbol is displaying, it indicates that the displaying value is the lowest temperature that has been recorded. If the instrument is in the Measurement Mode, then the displaying value is the lowest measured temperature value. If the lowest temperature value is lower than the operating temperature range of the instrument, it will display the **Lo** symbol.

Introduction of Other Parts

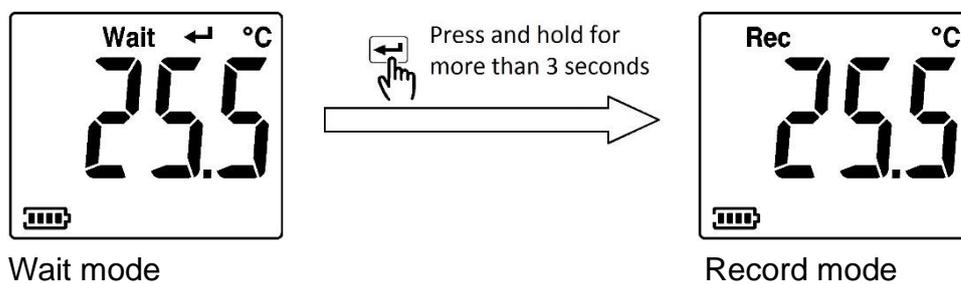


- 20. LCD screen.
- 21. Key.
- 22. Metal contacts for docking.
- 23. Battery compartment cover.

Key Pressing Operation

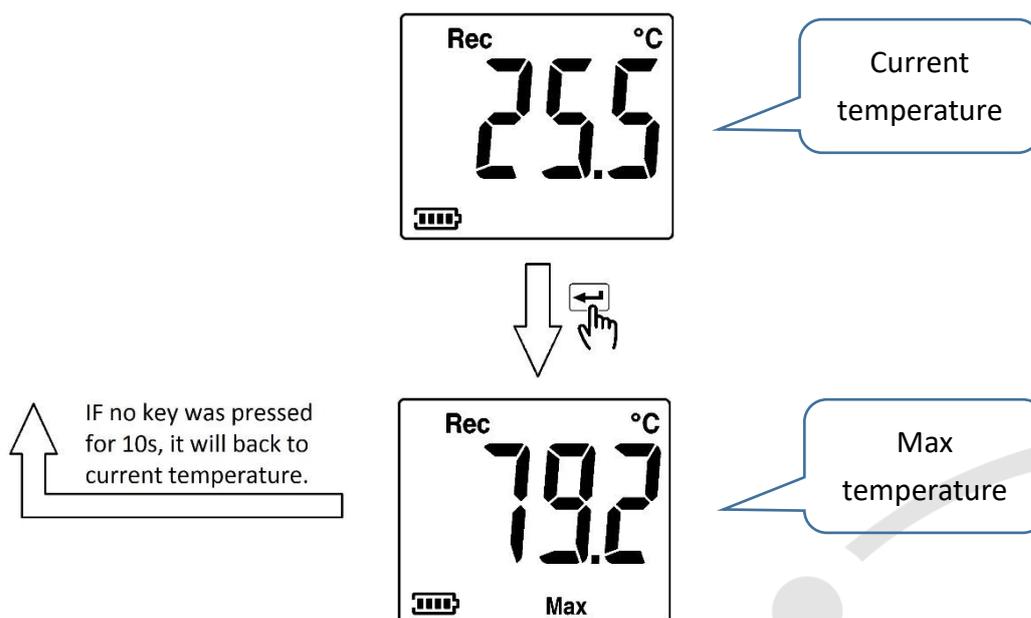
Start record mode

- When key start recording mode is set, the user can press and hold the key for more than 3 seconds, the instrument will enter the recording mode and start recording temperature.

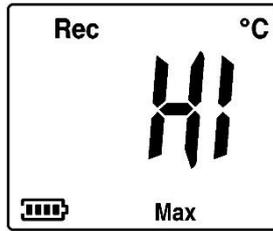


Display content of the instrument

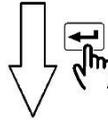
- Users can have different display content of the instrument by pressing the key.



IF no key was pressed for 10s, it will back to current temperature.



The max temperature value is higher than the measurement range.

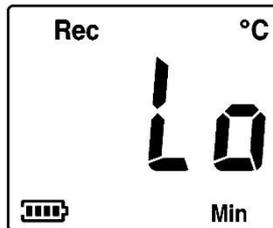


IF no key was pressed for 10s, it will back to current temperature.

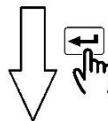


Min temperature

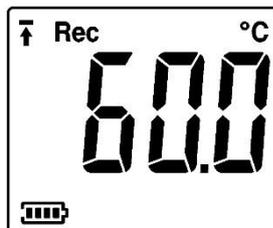
IF no key was pressed for 10s, it will back to current temperature.



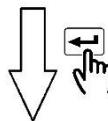
The min temperature value is lower than the measurement range.



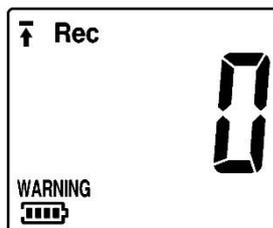
IF no key was pressed for 10s, it will back to current temperature.



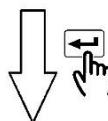
 symbol flashes, it shows the upper temperature limit.



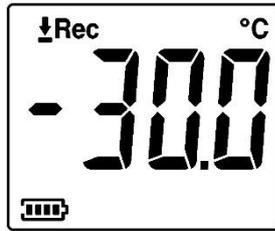
IF no key was pressed for 10s, it will back to current temperature.



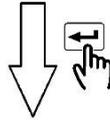
WARNING symbol flashes, it shows the number of recorded values which are higher or equal to the upper temperature limit.



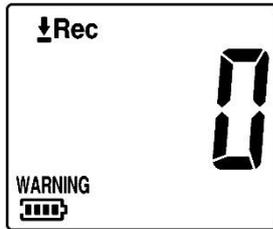
IF no key was pressed for 10s, it will back to current temperature.



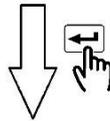
↓ symbol flashes, it shows the lower temperature limit.



IF no key was pressed for 10s, it will back to current temperature.



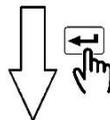
WARNING symbol flashes, it shows the number of recorded values which are lower than or equal to the upper temperature limit.



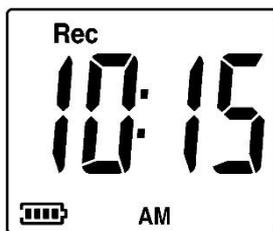
IF no key was pressed for 10s, it will back to current temperature.



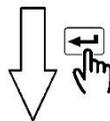
🔋 symbol flashes, it shows the number of days the battery can be used.



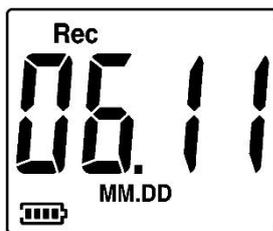
IF no key was pressed for 10s, it will back to current temperature.



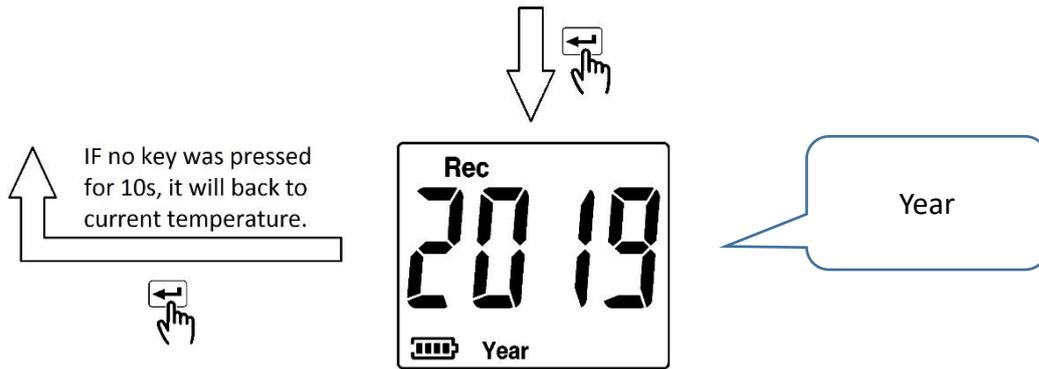
Time



IF no key was pressed for 10s, it will back to current temperature.

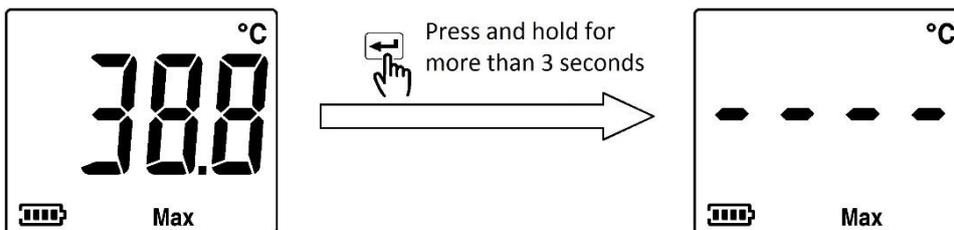


Showing date, left side is the month, right side is the day.

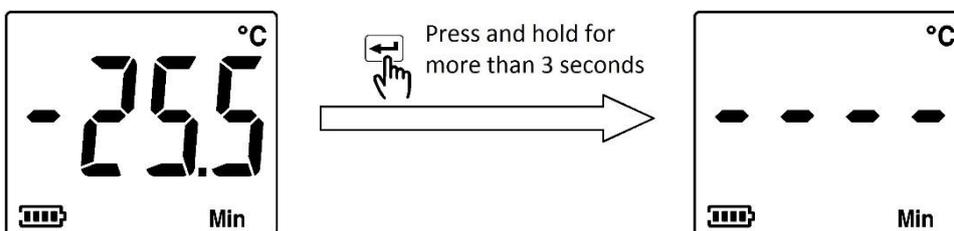


Reset Max and Min values

- At measurement mode, maximum and minimum values can be reset.



When the maximum temperature value is displayed, press and hold the key for more than 3 seconds to reset the maximum value. The digital zone will not display the temperature value at that time, and the instrument will recalculate the maximum value starting from the next measurement and display it again.



When the minimum temperature value is displayed, press and hold the key for more than 3 seconds to reset the minimum value. The digital zone will not display the temperature value at that time, and the instrument will recalculate the minimum value starting from the next measurement and display it again.

Note:

- The instrument does not calculate the maximum and minimum values in wait mode (**Wait** symbol displaying).
- In the record mode (**Rec** symbol displaying) and in the end mode (**End** symbol displaying), the maximum and minimum values cannot be reset. The maximum and minimum values in these modes refer to the highest and lowest values ever recorded, which are part of the recorded data and cannot be reset.

Instrument Working Mode

INNO 318 has 4 working modes:

Wait mode

- In wait mode, the instrument has been scheduled to record temperature. It is waiting to enter to record mode and start temperature recording. The **Wait** symbol is displaying on the screen.
- Users can set 3 methods to start recording:
 1. Key start: Press and hold the key for 3 seconds, instrument will enter record mode.
 2. Time start: Set the time to start temperature recording. When the pre-set time is reached, the instrument will enter record mode.
 3. Temperature start: With temperature-rise start method, when the measured temperature is higher than or equal to the pre-set value, then the instrument will enter record mode. Similarly, with temperature-drop start method, when the measured temperature is lower than or equal to the pre-set value, then the instrument will enter record mode. In addition, temperature-rise start and temperature-drop start method can be enabled simultaneously.

Record mode

- In record mode, instrument will record the measured temperature, **Rec** symbol is displaying in this mode.
- The recording interval can be set between 60 seconds to 24 hours.
- The instrument can stored up to 130,599 temperature values.
- The upper and lower limit alarm functions can be set. When the recorded temperature reaches the upper limit or reaches the lower limit, the corresponding  or  symbol is displayed. If both the upper and lower limits have been reached, both the  and  symbols will be displayed

simultaneously.

- Three recording method can be set:
 1. Set a number of temperature values to be recorded, when the recording amount was reached, recording will stop, instrument will enter end mode.
 2. Set a time period for recording, the recording start time and end time should be set. When end time was reached, recording will stop, instrument will enter end mode.
 3. Cycle recording. Instrument will keeping recording data, when the memory was full, the latest measured value will be recorded, and the oldest value will be discarded. User can stop the recording by the application software.

Note: If cycle recording method was used, the maximum and minimum temperature values displayed on the instrument screen refer to the highest and lowest values recorded by the instrument, not just the highest and lowest values among the 130,599 temperature values stored in the instrument. Therefore, the maximum and minimum values displayed may no longer exist in the instrument's record.

End mode

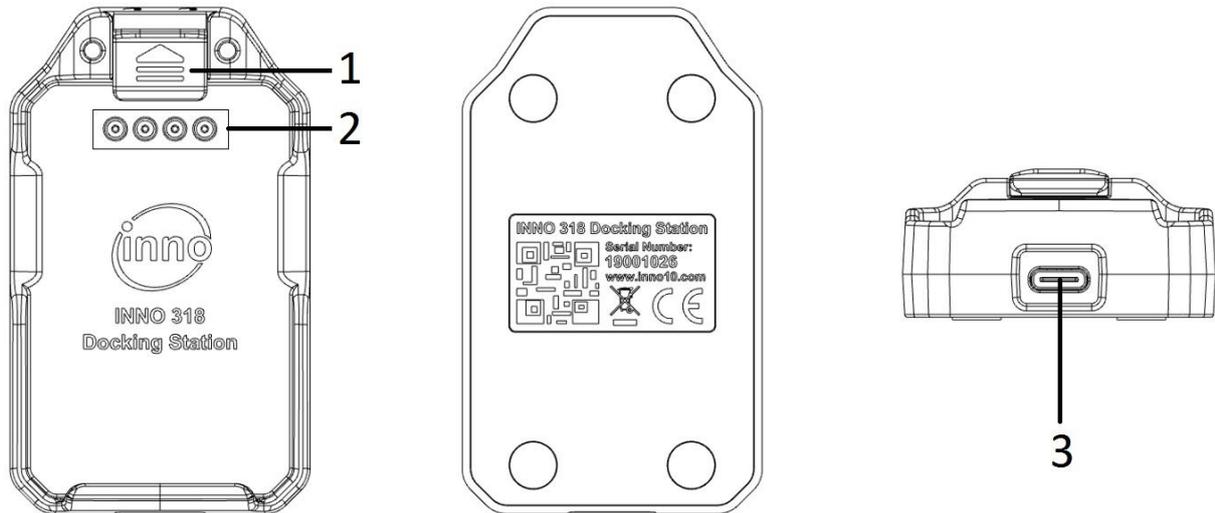
- In this mode, **End** symbol is showing on the screen. Instrument was completed the scheduled recording task, recording was stopped, but it will still measure temperature and display it on the screen.

Measurement mode

- In this mode, instrument will no record data, it is used as an accurate temperature measuring instrument instead.
- In this mode, when displaying maximum temperature value, the Max value can be reset by pressing and hold the key for more than 3 seconds.
- In this mode, when displaying minimum temperature value, the Min value can be reset by pressing and hold the key for more than 3 seconds.

INNO 318 Docking

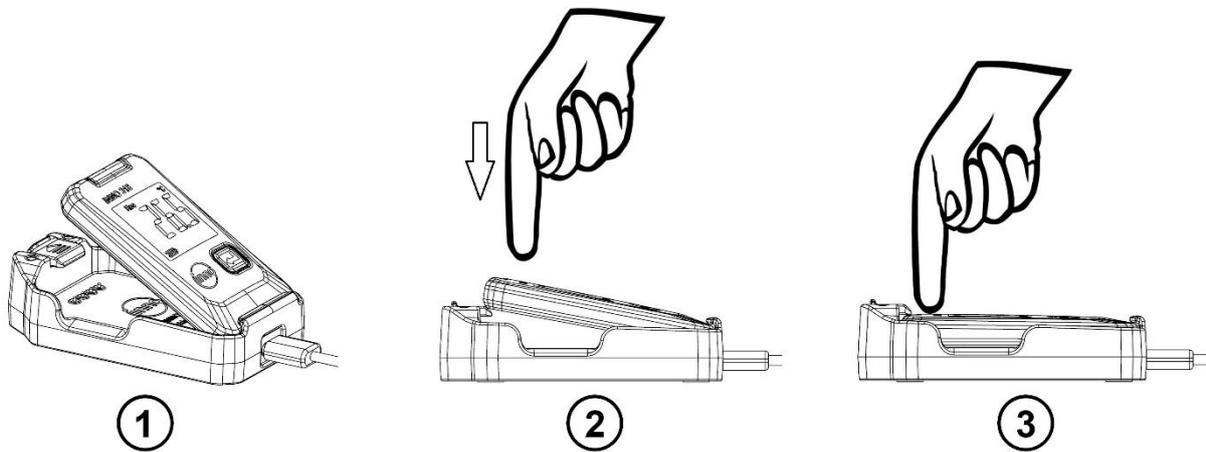
INNO 318 docking introduction



1. Sliding switch
2. Metal contacts, connecting INNO 318 and the docking.
3. USB Type C socket.

- INNO 318 docking is an USB type C interface device for INNO318 instrument.
- With INNO 318 docking, user can connect INNO 318 instrument to PC or smart phone.

Connecting INNO 318 to the docking



1. Insert INNO 318 to the docking from the end.
2. Pressing down INNO 318 at the top
3. Pressing until INNO 318 is completely inserted into the docking.

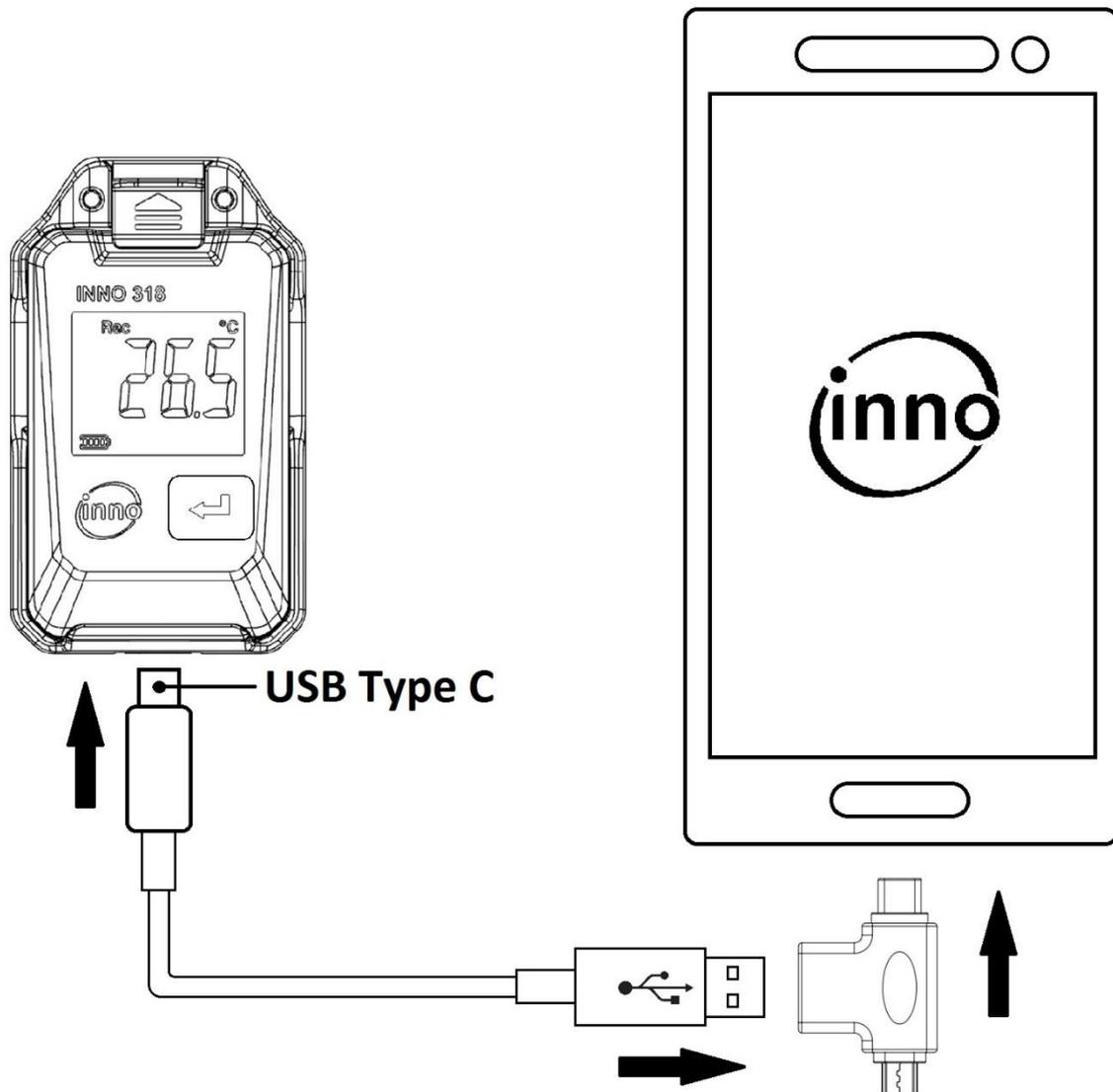
Other introduction

PC connection



1. Users can use USB Type C cable and INNO 318 docking to connect INNO 318 to the PC. When it was connected, **USB** symbol will show on the screen.
2. Users can use **innaware** (PC software for INNO 310) to setup the instrument.
3. The data recorded by the instrument can be downloaded by using **innaware** and for analyzing. Saving and printing the data are also available. Users can also export the recorded data to an Excel file.
4. **innaware** also provides the online measurement function.

Smart phone connection



1. With an OTG adapter, a USB Type C cable, and INNO 318 docking, users can connect INNO 320 to an android OS smart phone (android 5.0 or above).

USB symbol will be show on the screen when connecting.

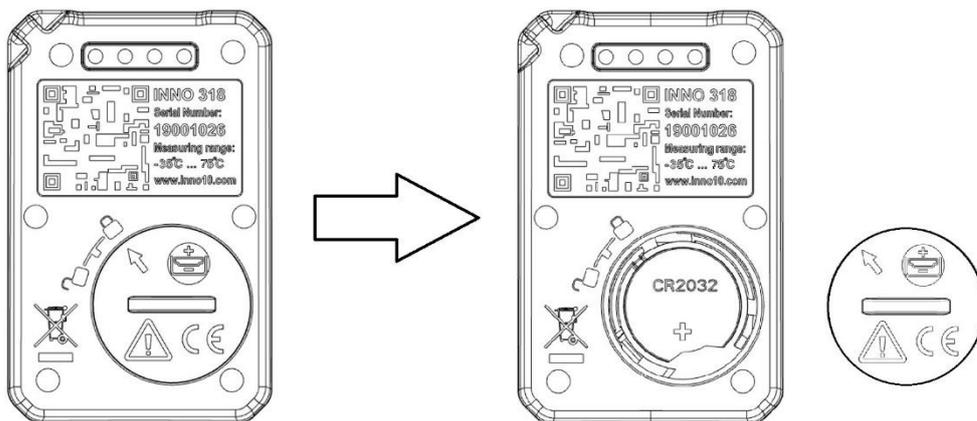
2. Users can use **inno APP** (android APP for INNO 318) to setup the instrument.
3. The data recorded by the instrument can be downloaded by using **inno APP** for analyzing and saving as a backup.
4. **Inno APP** also provides the online measurement function.

LCD screen performance at low temperature

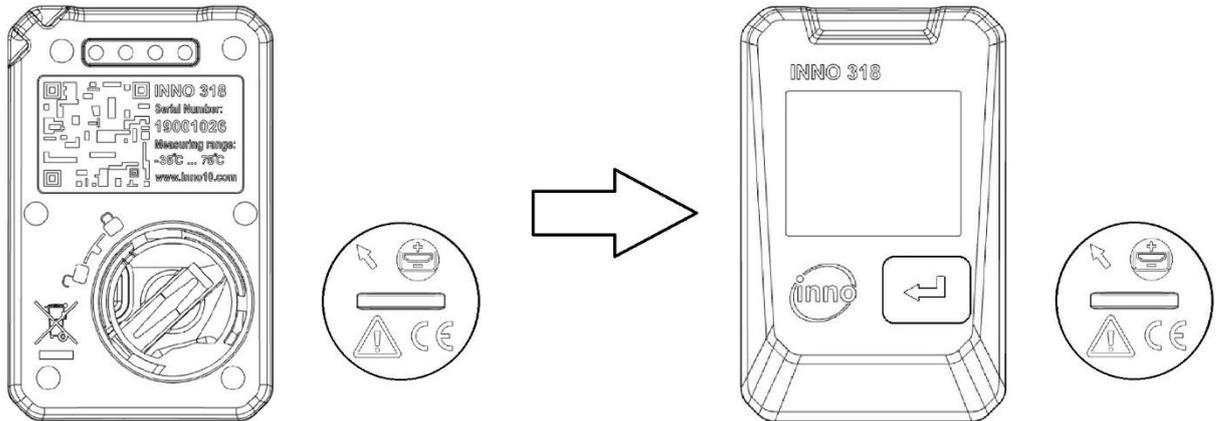
At low temperature, the response speed of the LCD will slow down and the contrast of the screen will decrease. These are normal for the LCD screen.

Temperature range	LCD response speed
Above 0 °C Above 32 °F	Very fast
0 °C ~ -10 °C 32 °F ~ 14 °F	About 1 second
-10 °C ~ -20 °C 14 °F ~ -4 °F	About 2 seconds
-20 °C ~ -30 °C -4 °F ~ -22 °F	About 3 seconds
Lower than -30 °C Lower than -22 °F	May be not able to display

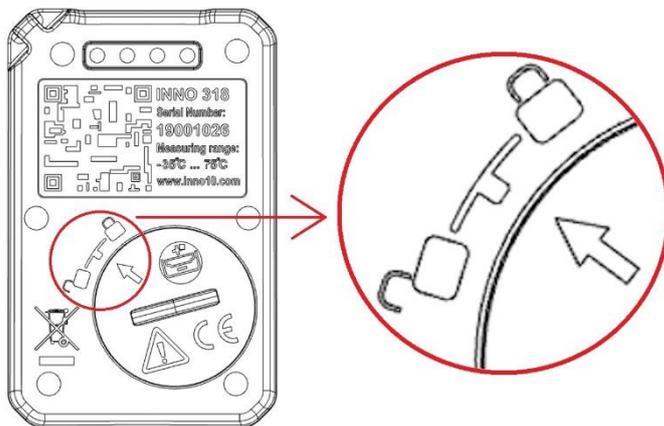
Battery replacement



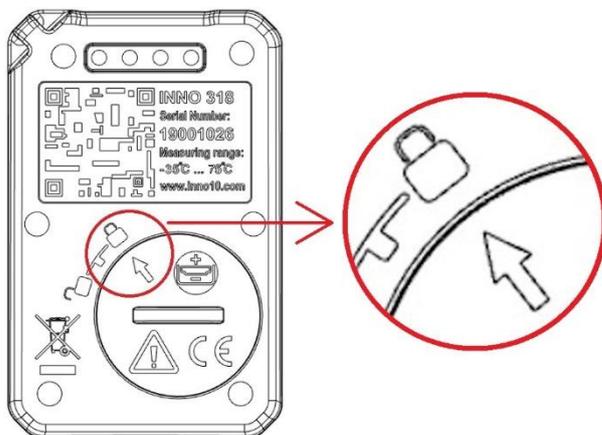
1. Use a suitable size coin to twist the battery cover counterclockwise to open the battery cover.



2. Remove the old battery from the instrument and wait for about 5 seconds until the residual power in the instrument is completely exhausted and the instrument screen has no displays.



3. Insert a new battery, and install the battery cover as shown above and press it tightly.



4. Use a coin to twist the battery cover clockwise until it is tight, that the arrow symbol on the battery cover as shown above.

----- End -----