

Digital Hand-held "Pocket" Brix-Salt Meter

PAL-BX|SALT+5

Cat. No. 4922

Measure Brix and Salt at the same time!

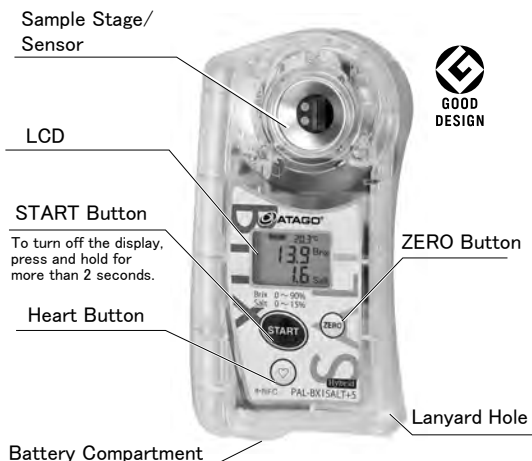
Save time and space.

It's even equipped with a data communication function!

The warranty period extension method
1 year → 2 years

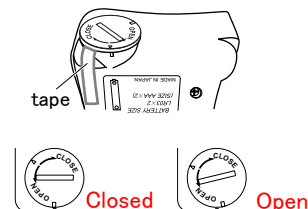
The warranty period will be extended from 1 year to 2 years when you register customer information. QR code ATAGO Logger NFC can also be downloaded at the same time.

QR code

Parts

Preparation

Remove the tape from the battery compartment and close the cover.

Note The cover must be closed properly to maintain water resistance. Keep the batteries in during storage.


About Scale

Salt (Std scale): Default mode for measurement and checking with reference solution.

Salt (USr scale): User scale of USr1 to USr5. After creating the user scale, it is possible to measure soy sauce and sauce with the undiluted solution.

Salt reduction index: Salt ÷ Brix. Brix to Salt ratio.

memo

Scale Number List	
Std	Soup
USr1 (Ur1)	
USr2 (Ur2)	
USr3 (Ur3)	
USr4 (Ur4)	
USr5 (Ur5)	

Preparation① Zero-Setting

※Recommended on a daily basis.

Salt: Zero-setting
Std display

- Clean the sensor (with nothing on the sensor).
- Press the START button.
- Measurement: not 0.00%
Press the ZERO button.
Measurement: 0.00%
The instrument is zero-set correctly.

Brix: Zero-setting

- Apply tap water.
- Press the START button.
- Measurement: not 0.0 Brix
—Zero-setting is required.—
Press the ZERO button.
Measurement: 0.0 Brix
The instrument is zero-set correctly. Press the START button.
- Proceed to measurement.

Preparation② Select A Scale Number.

- Press and hold the Heart button for 5 seconds (while the unit is powered on).
- Select a Scale Number. Use the ZERO button to move the number upward. Use the START button to move the number downward.
- Press the Heart button to confirm the selection.

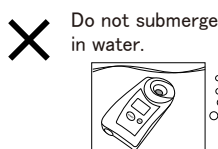
How To Measure

- Clean the sensor.
- Apply the sample. At least 0.6mL.
- Measurements
Std display
Ur display
Press the START button
- Low Sodium index
Press the Heart button
Low Sodium index

Cleaning

- Wipe off the sample.
- Clean with a mild soap, and rinse well with water.
- Dry the area with tissues thoroughly.

Wash under running water (<50°C).



memo Do not use alcohol.

Error Messages

- LLL • Brix: Sample not enough.
- AAA • Brix: Zero-setting with other than water.
- Salt: Calibration with other than reference solution.
- HHH • Above the measurement range.
- nnn • Brix and Salt (USr): Too Bright. Shade the sample stage with your hand.
- ooo • Low sodium index error.
- Err • Creating user scales error.
- Lo • The battery is low.

Creating User Scales And Dilutions

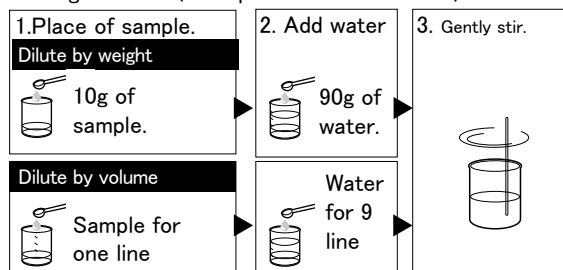
The Salt meter, which measures electrical conductivity, requires a 10-fold (refer to making Dilution) dilution for foods with Brix 6% or higher. (prepare 3 versions of the same sample : Refer to User Scale Samples)

The PAL-BX | SALT + 5 user scale enables salt measurement of undiluted products.

User Scale Samples (A>B>C)

- (A) undiluted solution
- (B) dilution 1
Brix / Salt between A and C
- (C) dilution 2
Brix 6% or less
Salt 1-2%

Making Dilutions (Example of 10-fold dilution)

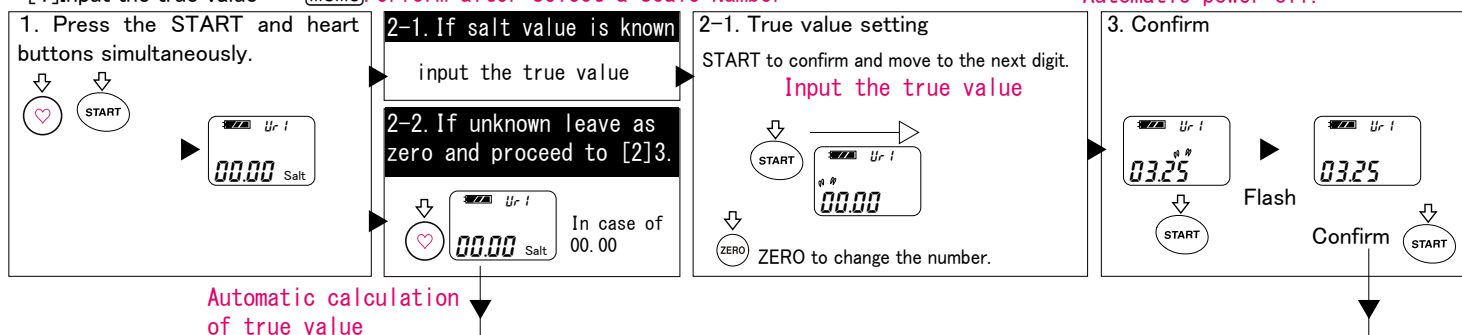


Creating User Scales

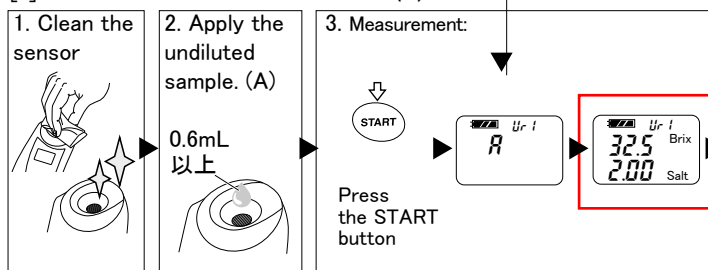
[1] Input the true value **memo** Perform after Select a Scale Number

memo

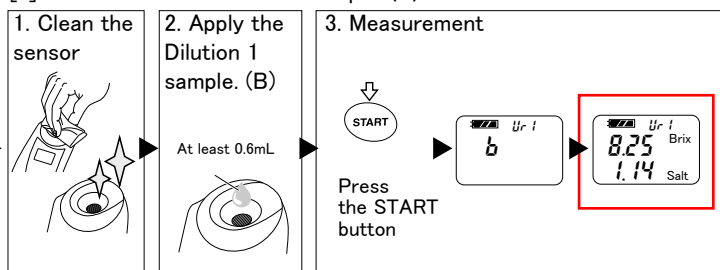
No operation for 5 minutes.
Automatic power off.



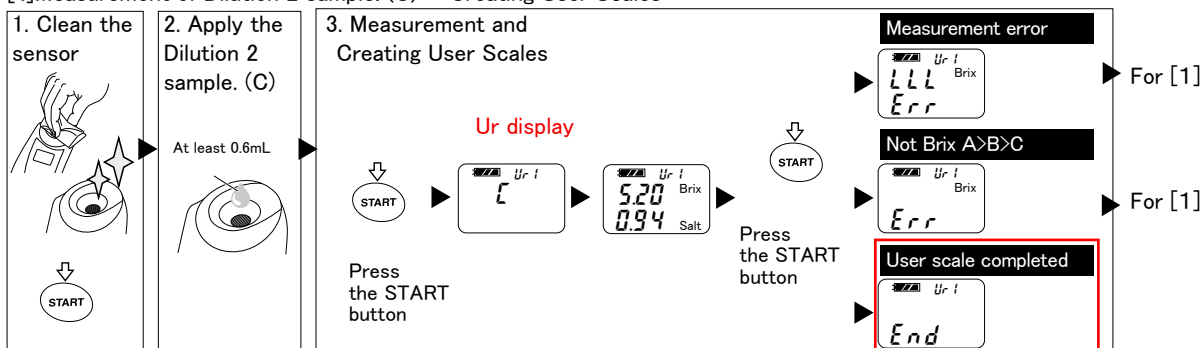
[2] Measurement of undiluted solution. (A)



[3] Measurement of Dilution 1 sample. (B)



[4] Measurement of Dilution 2 sample. (C) Creating User Scales



*To program additional scales, please make sure to switch the scale number

Salt: Checking With Reference Solution Std Scale

When there is any doubt regarding accuracy of measurement results, adjust the reference value according to the following procedure.

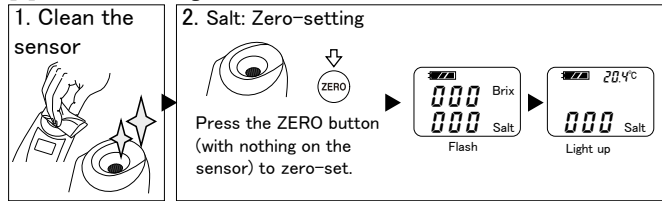
memo The reference solution is available from ATAGO.

Part No. RE-120250 NaCl Solution 2.50%

Part No. RE-120900 NaCl Solution 9.00%

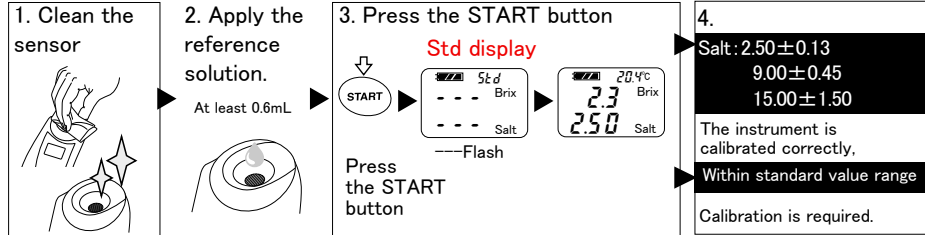
Part No. RE-121500 NaCl Solution 15.0%

[1]Salt: Zero-setting

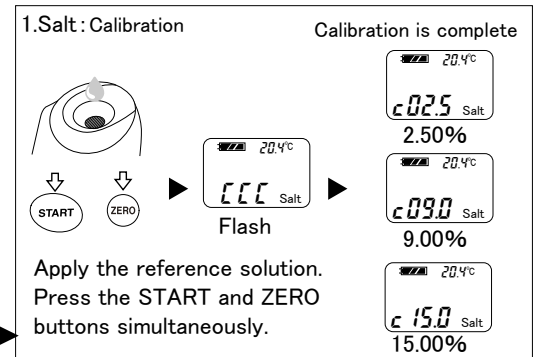


memo Calibration automatically recognizes 2.50%, 9.00%, 15.00%.

[2]Salt: Checking with Reference Solution (NaCl Solution 2.50%, 9.00%, 15.00%)



[3]Salt: Calibration

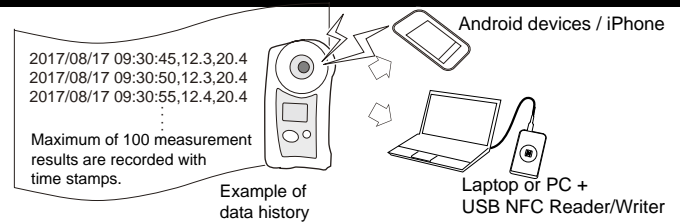


About Data Transmission Function

This instrument stores maximum number of 100 measurement data. This instrument is equipped with NFC (Near Field Communication) technology. Data history can be accessed by bringing PAL-NFC to any Android devices, iPhone or PC-linked USB NFC Reader/Writer* (in conformance to PC/SC specification).

* Operation tested with SONY USB NFC Reader PaSoRi RC-S380.

Caution Data history exceeding 100 will overwrite old activity with new data, replacing the oldest recorded information first.



Preparation

(1) Software installation Install a software to readout the NFC tag ahead of time.

Android devices / iPhone

Applicable Application Software (app) "NFC Reader"

* If an NFC tag reader app is already installed on the Android devices or iPhone, this app can be used.

Laptop or PC + USB NFC Reader/Writer

Data history can be exported to Microsoft[®] Excel[®] (for Windows[®]) using a PAL NFC software "ATAGO Logger (NFC)."

2021/01/17 09:30:45	LLL	LLL	LLL	20.4
2021/01/17 09:31:50	12.5	0.31	0.39	20.5
2021/01/17 09:32:12	3.2	1.25	0.39	21.0
2021/01/17 09:34:26	AAA	AAA		21.2
2021/01/17 09:43:07	OOO			22.3
2021/01/17 09:43:18		OOO		22.5
2021/01/17 09:45:39	38.5	5.89	0.15	25.1
2021/01/17 09:46:07	39.2	5.92	0.15	25.3

Example of data history read out

LLL : Lower limit error.
HHH : Upper limit error.
OOO : Zero setting complete.
nnn : External light error.
AAA : Zero setting error.
ooo : Low Sodium index error.

A0135897
667937E581

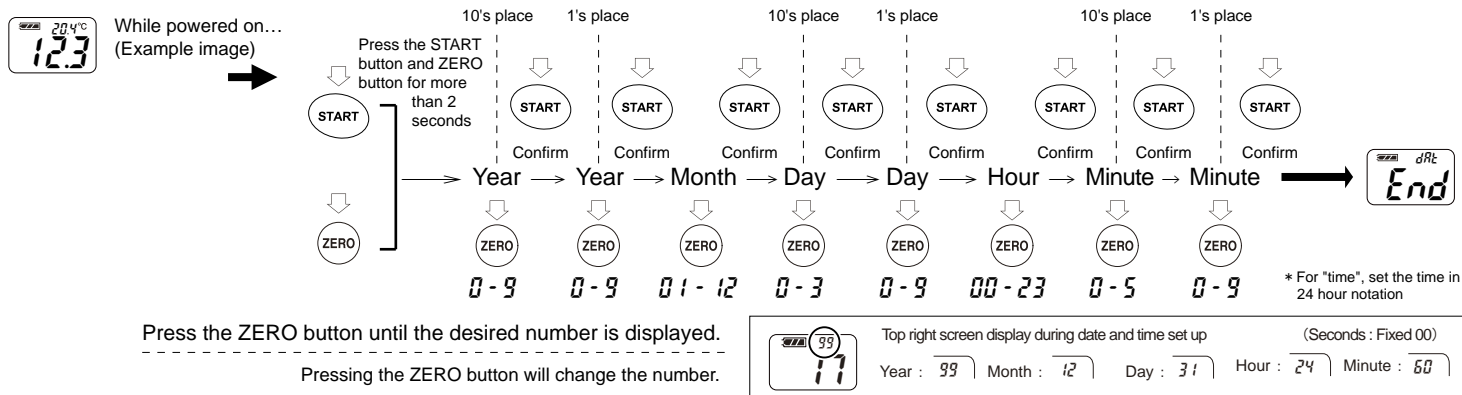
Back side of the body
Instrument's serial number
Last 10 digits of NFC chip number (NFC'S serial number)
You can use the NFC'S serial number to identify which instrument the readings correspond to.

You can check the NFC chip number (serial number) by using an app that can read the serial number.
Note: Not all NFC apps capture the NFC'S serial number
Suggested app: "NFC Tools"

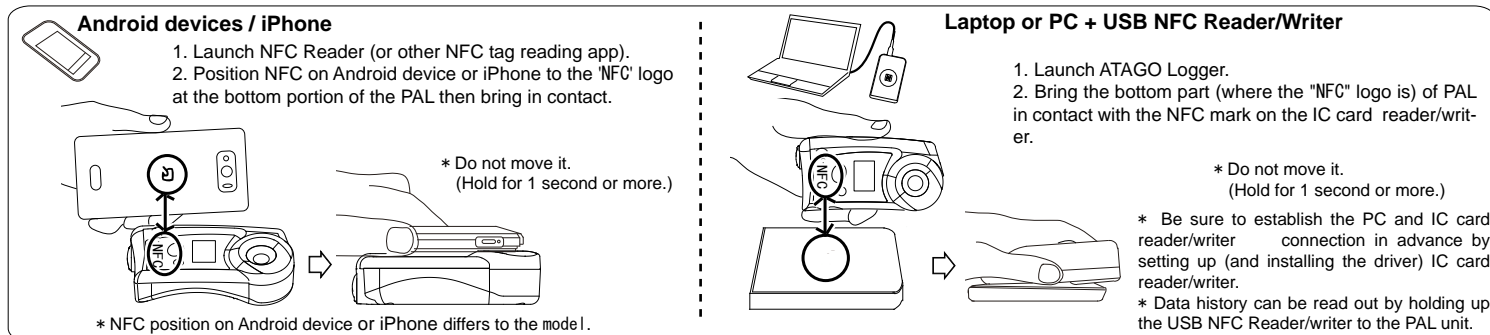
(2) Date and time setting

Set the date and time (year [the last two digits of the western calendar], month, date, time and minute) prior to data history readout.

memo Reset the date and time when batteries are removed for 24 hours or more.



Data history readout



All recorded data stored in this instrument are read out.

* If data history is not read out, bring both in contact and move the one that is over the other device in a forward and back or left and right in a small motion.

memo Data history can be read out while PAL is powered off.

memo Data history readout will not delete the stored data history.

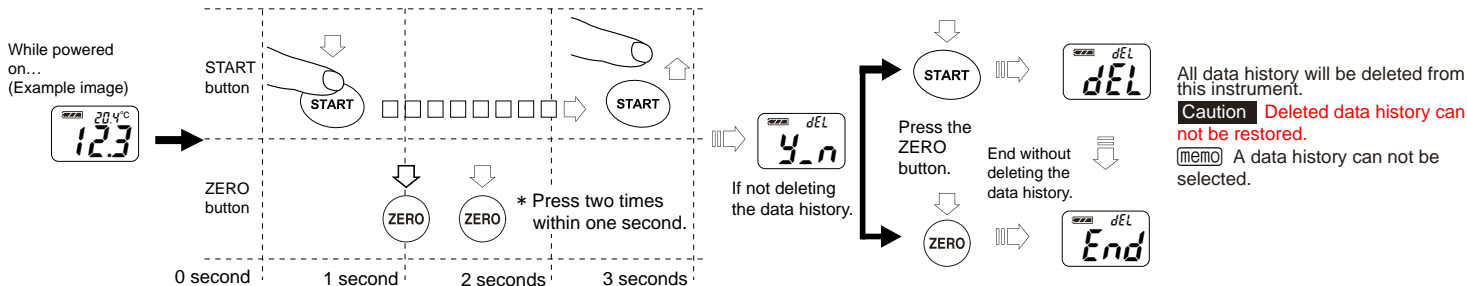
Caution Bring PAL and Android devices, PAL and iPhone or PAL and USB NFC Reader/writer as close to each other as possible. (Position it so that the distance between both devices are 5mm or less.)

Delete data history

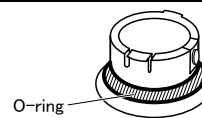
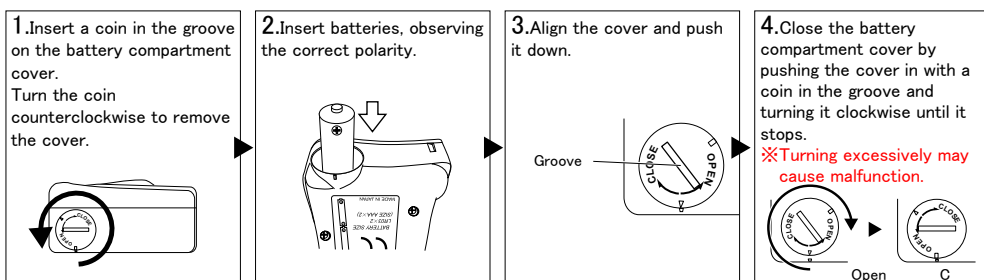
1. Quickly (3 seconds or less) do the following button operation.

- (a) While pressing the START button, press the ZERO button two times.
- (b) Quickly release the START button.

2. Press the START button. Delete data history



Inserting Batteries



Note When the O-ring on the battery compartment cover is dirty or damaged, the water resistance may be compromised.

Safety Precautions

Read and follow all safety instructions before operating the instrument.

⚠ WARNING

•When measuring hazardous materials, use proper safety procedures, materials, and clothing to avoid personal injury. Anyone handling hazardous materials should understand its properties and its safety requirements. •If the instrument is dropped or subjected to a strong impact, contact your supplier for inspection. •Do not attempt to repair, modify, or disassemble the instrument.

⚠ CAUTION

•Before use, carefully read the instruction manual and fully understand the function and operation for each part of the instrument. •ATAGO is not liable for any loss and damage caused by the measurement and use of this instrument. •If this instrument is used to measure highly acidic samples, the sensor section and sample stage may be damaged, resulting in inaccurate measurements. •Do not use any metal tools when applying sample to the sensor section. The metal can damage the sensor section. If the sensor section is scratched or damaged, inaccurate measurements will occur. •When the unit needs to be washed, use water at a temperature not exceeding 50°C. •Only use the specified battery type. Observe proper polarities, properly aligning the anodes and cathodes. •Do not leave the instrument in a location exposed to direct sunlight or near a heat source for any extended period of time. •Do not change the ambient temperature of the instrument suddenly. •Do not place the instrument where it will be subject to strong vibrations. •Do not use the instrument where there are excessive amounts of dust. •Do not store the instrument in an extremely cool area. •Do not set or drop heavy objects on top of the instrument. •Loosen the battery compartment cover for air transportation. •The instrument is water-resistant, not waterproof, and should not be submerged.

Contents

Main unit...1 Instruction Manual (this book)...1 AAA batteries...2

Note Please remove the tape in the battery compartment before first use.

ATAGO instruments are rigorously inspected to ensure each unit meets the highest standards of quality assurance.

Automatic Temperature Compensation

The Automatic Temperature Compensation (ATC) feature is based on temperature detected by the thermo sensor located near the sensor area. ATC may not work correctly when the temperature of the sensor area is not the same as the actual temperature of the sample. When measuring a hot or cold sample, let it sit on the sensor for approximately 20 seconds and measure, or take multiple readings until measurements become stable.

Storage And Maintenance



Store the instrument in a dry place away from direct sunlight. Exposure to humidity may cause condensation inside, and exposure to direct sunlight may cause the plastic to warp.



•Cleaning Clean and dry the sensor area thoroughly after use, leaving no sample residues or water.
(For oily samples:)
Remove oily residues with mild soap, and then, rinse with water.
•Storage Store the instrument away from direct sunlight at a stable temperature with as little fluctuation as possible.

Repair And Warranty

The instrument is warranted for one year from the date of purchase. This warranty is void if the instrument shows evidence of the following. Send the included batteries as well if they are still in use. •Having been disassembled by unauthorized personnel •Damages to the sensor section •Water damage or having been dropped •Having been misused and/or operated outside the environmental specifications •Leakage from batteries other than those included with the unit Repair services are available for a fee after the warranty expires. Contact an ATAGO authorized service center for service and support.

Please have the serial number information ready when contacting a service center.

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Specifications

Measurement range	Brix 0.0 to 90.0% , Temperature 10.0 to 100°C SALT(Std) 0.00 to 15.00% (g/100g)
Resolution	Brix 0.1% SALT 0.01% Temperature 0.1°C
Measurement accuracy	Brix $\pm 0.2\%$ Temperature $\pm 1^\circ\text{C}$ SALT(Std) Displayed value $\pm 0.05\%$ (for salt concentration of 0.00 to 0.99%) Relative precision $\pm 5\%$ (for salt concentration of 1.00 to 9.99%) Relative precision $\pm 10\%$ (for salt concentration of 10.00 to 15.00%)
Measurement time	Approx. 3 seconds
Backlight	The backlight stays on for 30 seconds after any button is pressed.
Output	NFC Forum Type 4 Tag ISO/IEC 14443 Type A
Output category	Date Time, Brix[%], Salt[g/100g], Low Sodium Index, Temp[degC] (e.g.) 2021/01/17 09:30:45, 76.1, 3.71, 0.05, 21.3
Maximum number of data history	100
Automatic temperature compensation range	Brix : 10 to 100°C Acid : 10 to 40°C
Ambient temperature range	10 to 40°C
International Protection class	IP65
Power supply	Two (2) AAA alkaline batteries
Dimensions and Weight	55(W) × 31(D) × 109(H)mm , 100g (main unit only)

2110K Printed in Japan