

MSDR-D-KERN Digital Refractometer User Manual

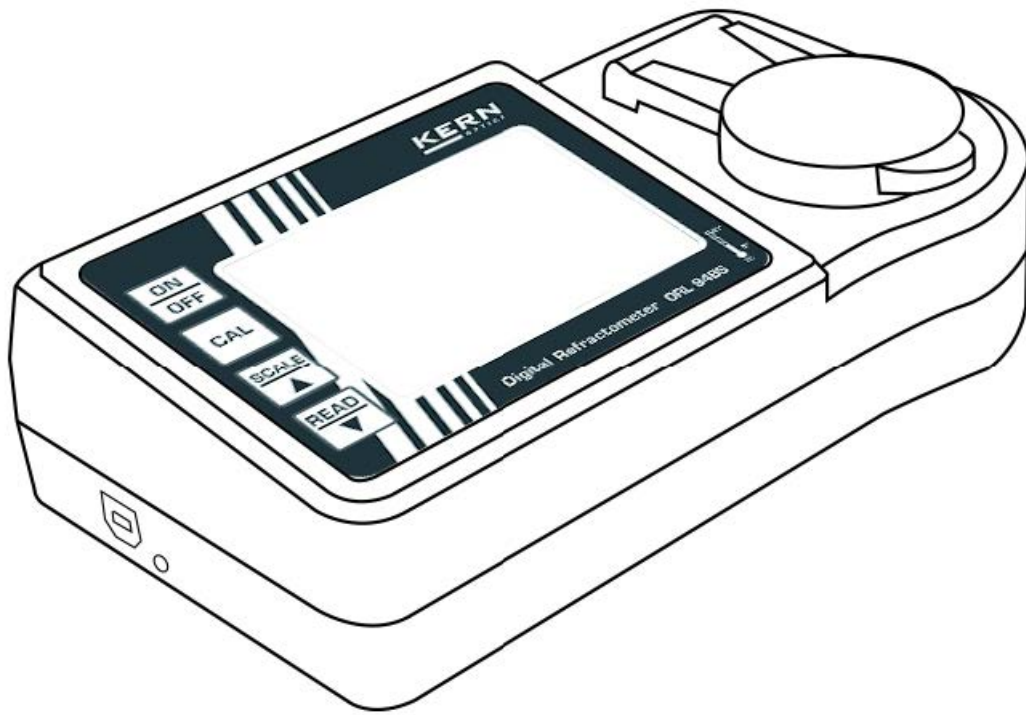
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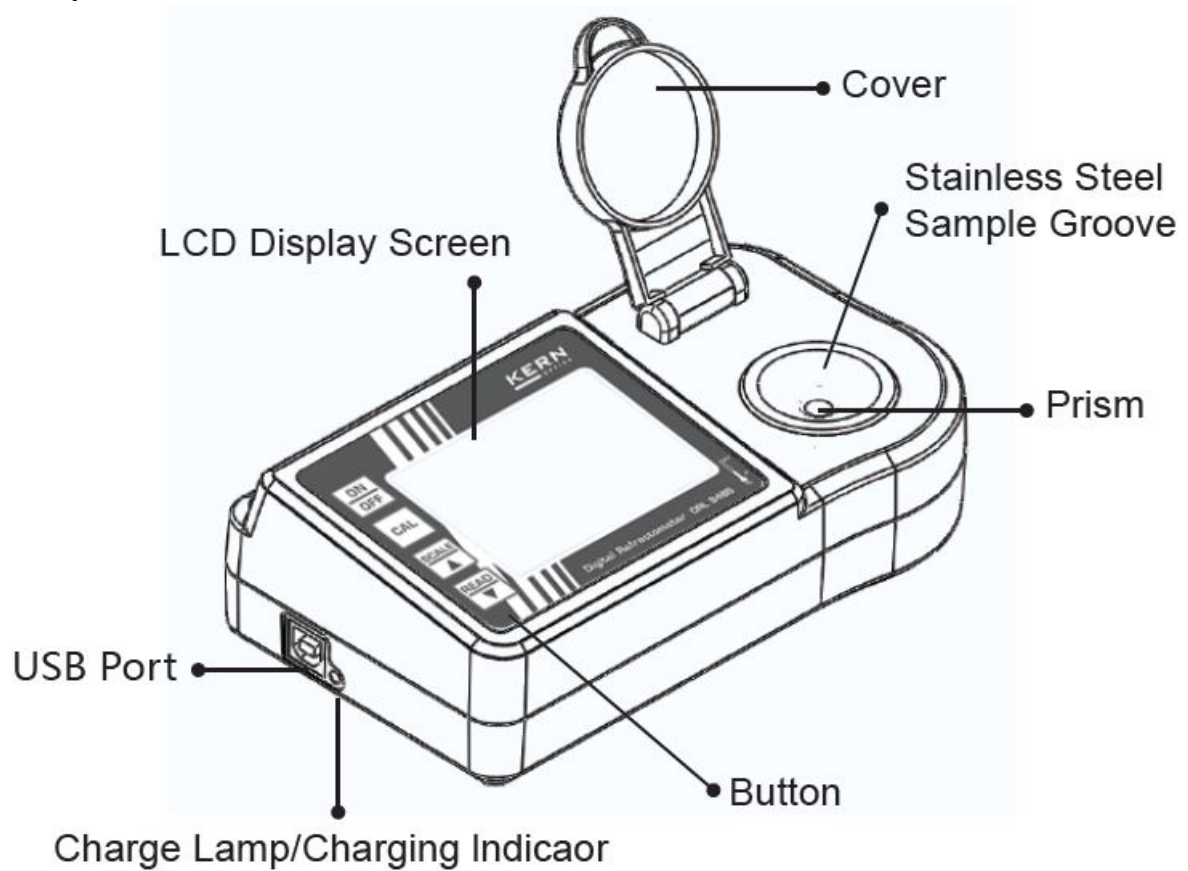


MSDR-D-KERN Digital Refractometer

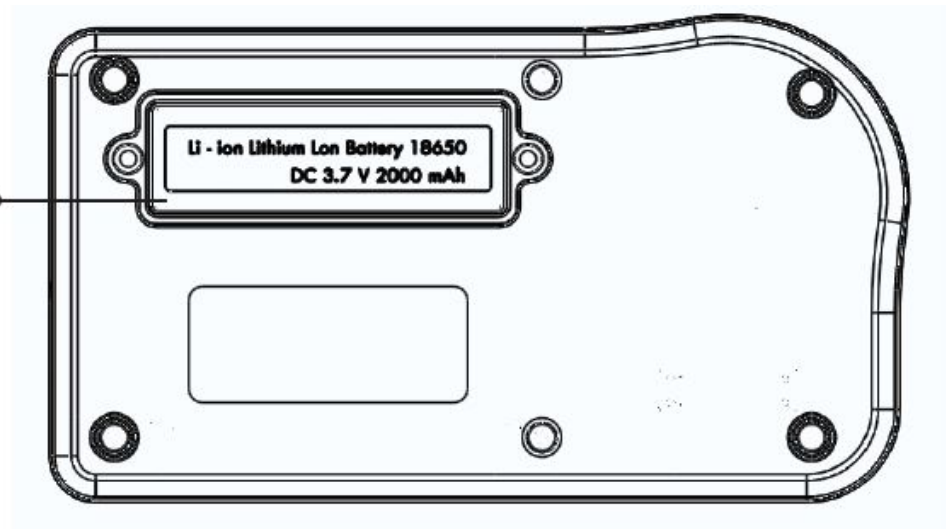


Introduction

Panel Descriptions



Battery Hatch

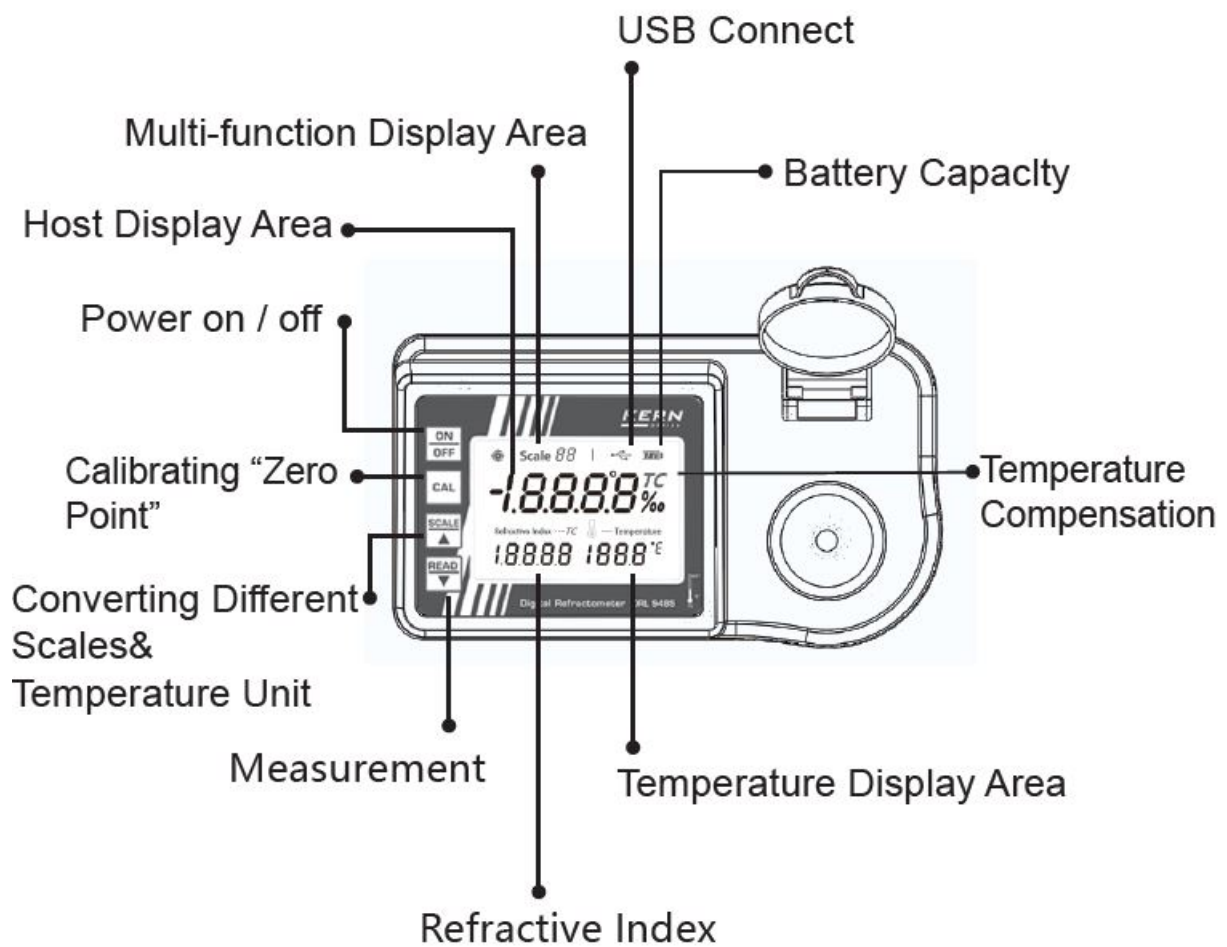



The Packing Accessories

- Packaging x1 The instructions x1 Dropper x1
- Screwdriver x1 USB Line x1 Charger x1

Display and Buttons

Display Areas and Buttons



⚠ If  is displayed, please charge it.

Preparations before Operating

Install the Battery

Use the screwdriver to open the battery hatch.



USB Connection

Connect to USB for charging/connecting to the computer.



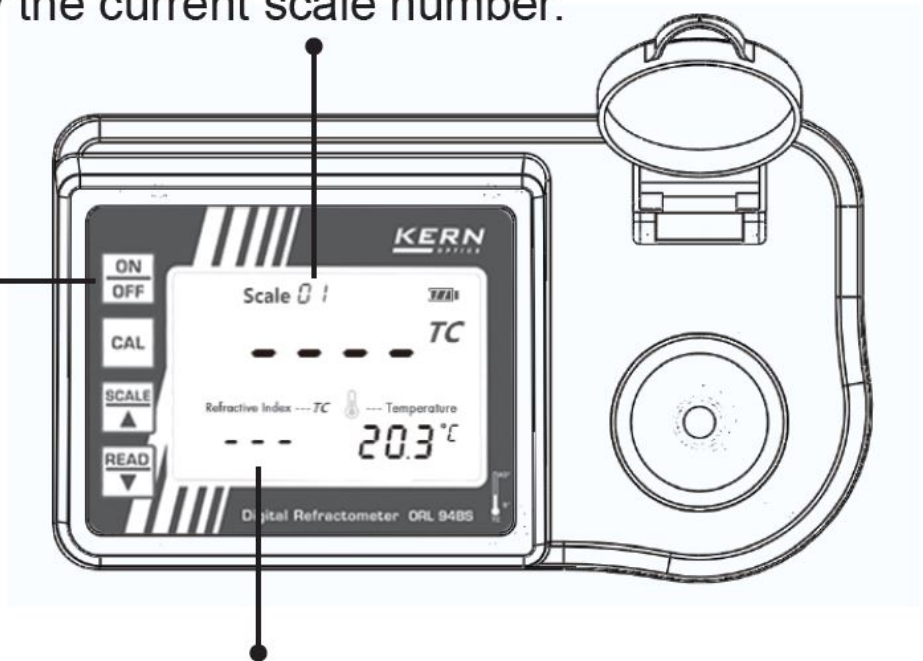
USB Interface

Booting and Measurement

Booting

The multi-function display area would show the current scale number.

Press "On/Off" button to turn on



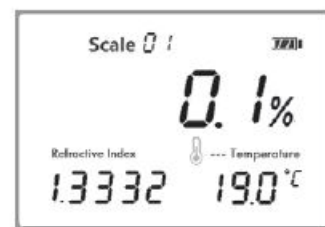
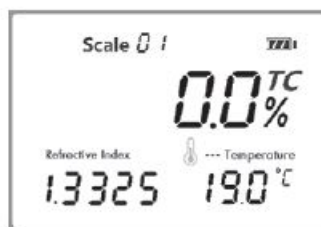
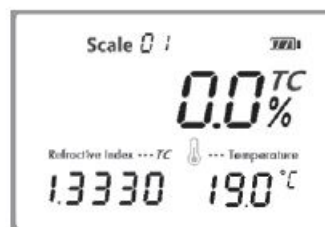
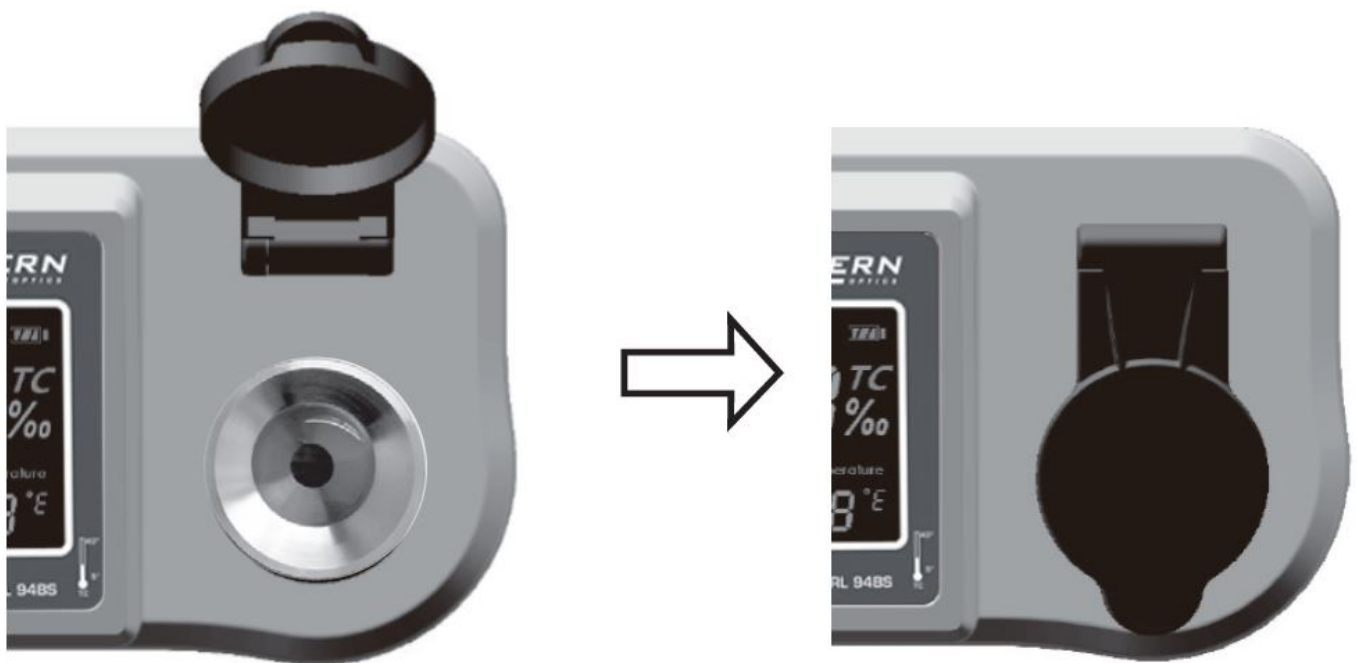
If there is no sample, it will display "dash"

Note :

1. When used outdoors, please avoid strong light so as not to affect the measurement accuracy.
2. Before dripping into the sample liquid, please clean the sample plate and Prism with soft clean cloth or soft paper.
3. Please keep the instrument in a stable status to measure.
4. Please ensure instrument, environment and sample are in the same temperature level before measuring.

Measurement

After turn on, clear the distilled water and dry the sample plate, drip 0.3~0.4ml sample then close the cover to measure.

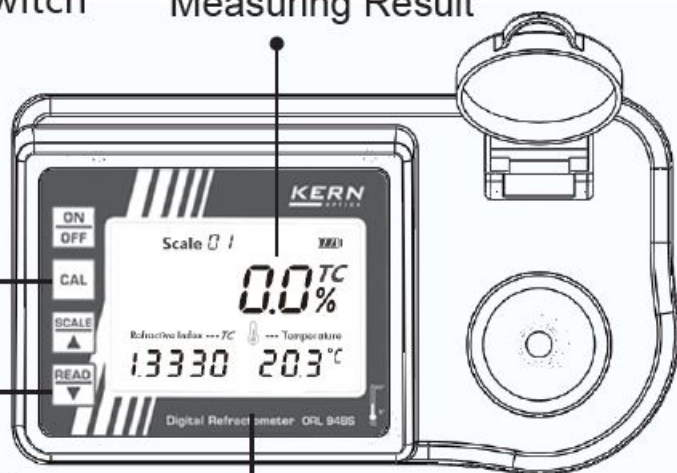


Cyclic Switch

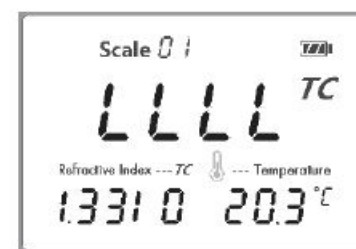
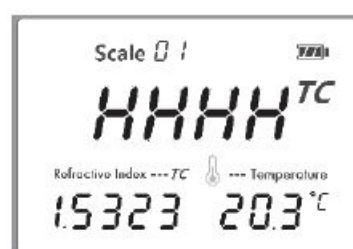
Measuring Result

Press CAL once

Press the "Read" one time the meter will measure one time.

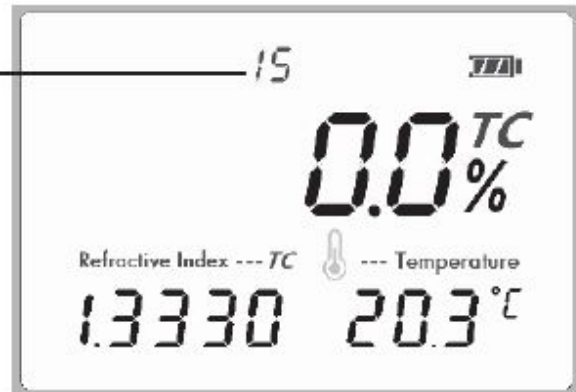


Showing Beyond Measuring Range



If press the “Read” button for 2 seconds, the instrument would make the automatic measurements upon programmed times (default 15times), the final value is the average of 15 times’ measurements, After measurements, it will return to the normal state and the scales display area would display the average of the automated measurements

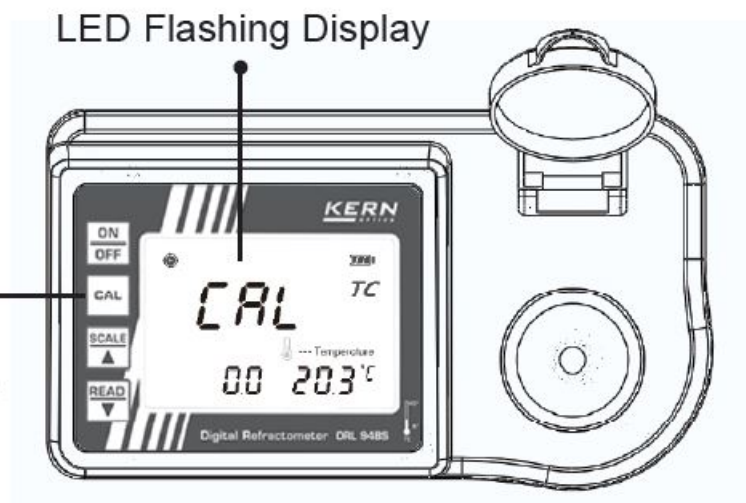
The multifunctional area displays the number of remaining automatic measurements. For each automatic measurement, this number is reduced by 1.



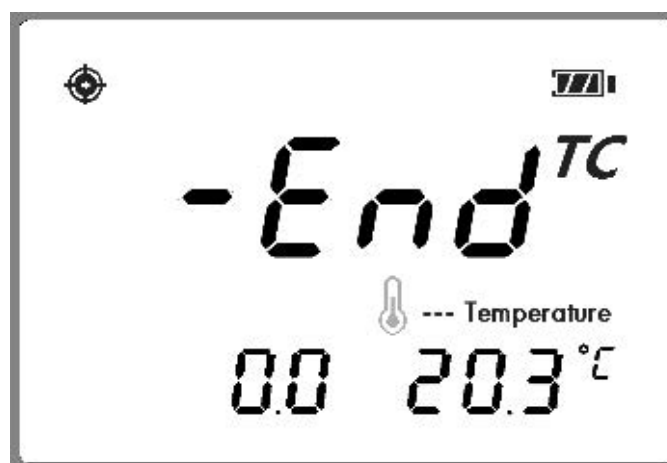
The Calibration

The meter only supports pure water calibration. The calibration method is as follows: drop 0.4ml pure water then close the cover to measure.

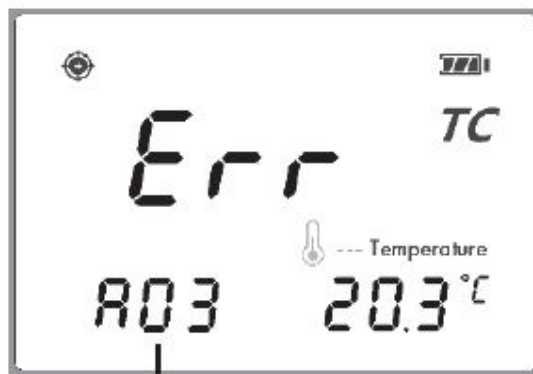
Press “CAL” button for 2-3 seconds till see the ‘CAL’ flashing .to enter the calibration status.



Press “CAL” button once again during the ‘CAL’ flashing to start to calibrate. When the calibration is completed showing as follows. If no operations for 10seconds the instrument would return back to booting status.



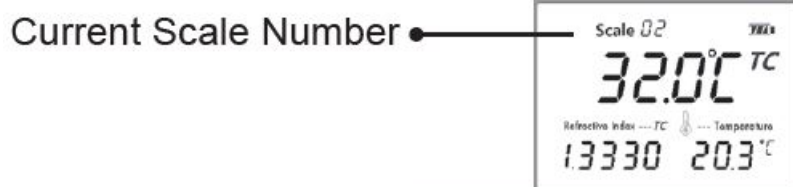
If fail to complete the calibration, the multi-function display area would show an error code.



Display error code A03, indicating error of sensor measurement. See the appendix for other error codes.

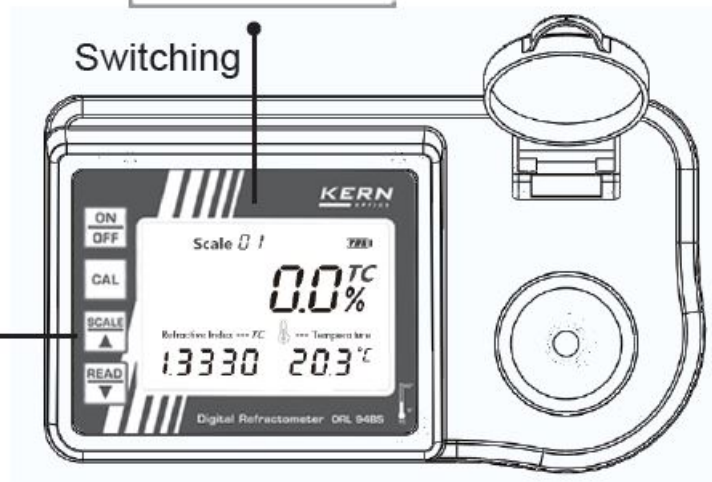
Scales converting and temperature systems converting

Scales Converting



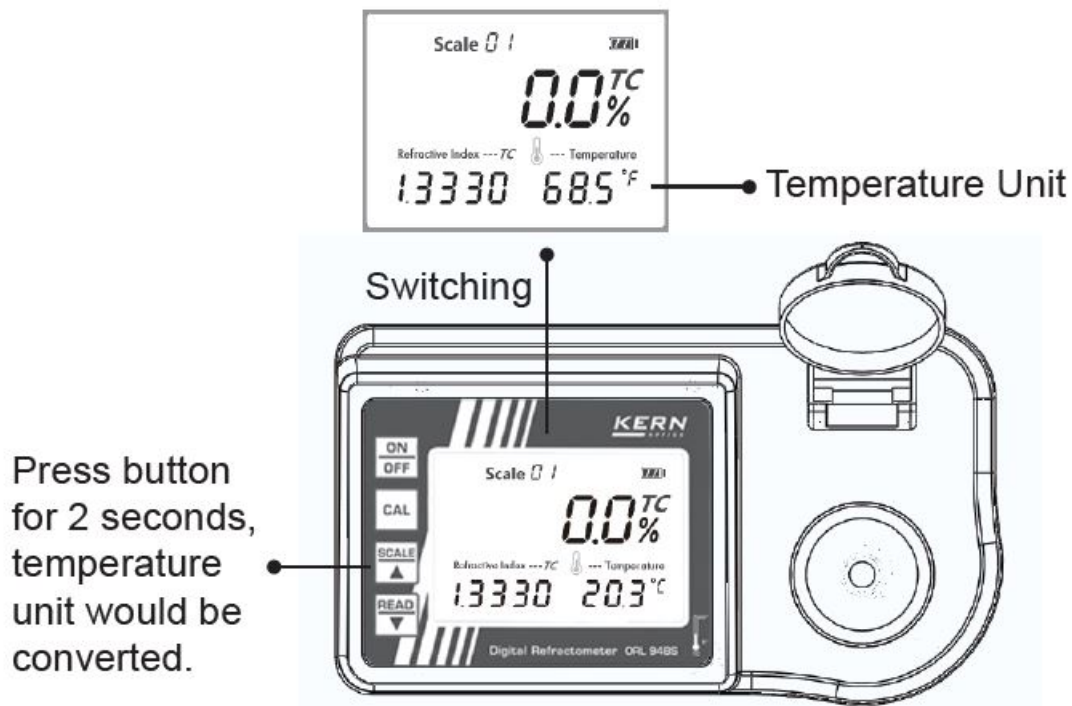
Current Scale Number

Press 'Scale' once to convert the scales and the values.

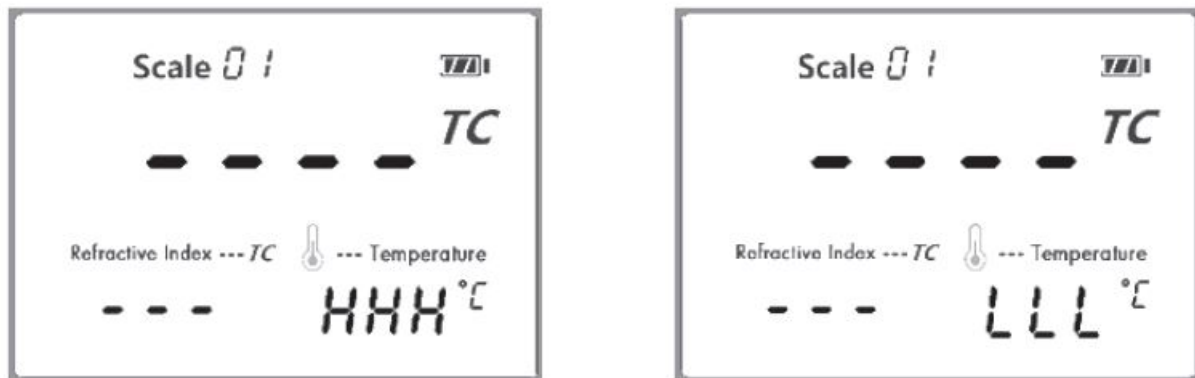


Switching

Temperature System Converting



If exceed the temperature limitations, the signs “HHH” or “LLL” would show.



Turn Off

1. After turn on if without any operations for 3 minutes, the instrument would be automatically turned off.
2. Press “on/ off ” button for 2-3 seconds, the instrument would be turned off.

Maintenance and Preservation

1. Please clean and wash the sample plate with distilled water and dry it with soft cleaning cloth or paper towel after finishing the measuring one kind sample.
2. Never left the remains and residuals of samples in the sample plate for long time.
3. After finishing measurements of the corrosive liquid, please clean the sample plate as quick as possible to avoid irreparable damage of the prism and metal surface of the plate.
4. Please use soft cleaning cloth or paper towel to clean the sample plate to avoid scribing the prism’s glass.
5. When the dropper and dust-free cloth are not used, please clean it with clean water and put it in the packing box after drying.
6. If no using the instrument for a long time, please remove the battery, and preserved in a cool and dry environment.

Appendix


Performance:

	Range	Accuracy	Resolution
Brix	0.0%~94.0%	±0.1%	0.1%
R.I.	1.3330~1.5290	±0.0002	0.0001
Temperature	0.0~40.0°C	±0.3°C	0.1°C
	32.0~104.0°F	±0.6°F	0.1°F
Dimension	180*100*55mm		
Net weight	365g (excluding battery)		

The Error Codes Table

Code	Instructions
A01	Beyond the scope of calibration temperature. (1.0°C~40.0°C)
A02	During calibration, no solution or non-pure water
A03	This instrument has a hardware failure.

Documents / Resources

	KERN MSDR-D-KERN Digital Refractometer [pdf] User Manual MSDR-D-KERN, Digital Refractometer, MSDR-D-KERN Digital Refractometer, Refractometer
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