



Digital Refractometer



Operational Manual

Catalogue

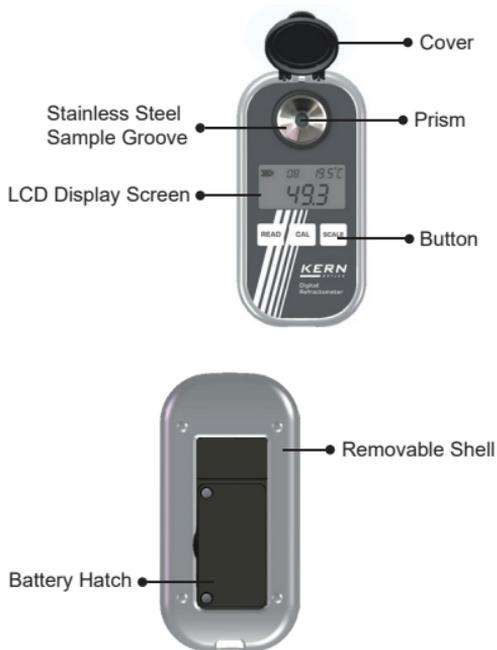
1. Introduction	1
2. Display & Button	2
3. Preparations before Operation	3
4. Booting and Measurement	4
5. Calibration	6
6. Switch the Scales and Temperature Units	7
7. Turn Off	9
8. Maintenance & Preservation	9
Appendix	10



Before operating your instrument, please read this manual properly.

1.Introduction

Panel Descriptions

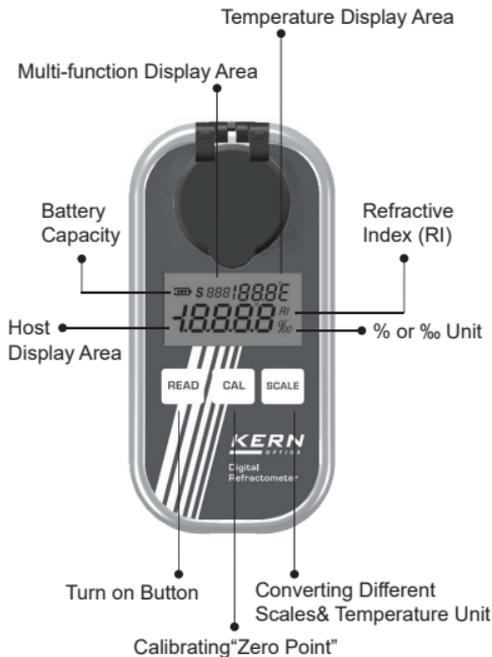


The Packing Accessories:

Packaging x1 The Instructions x1 AAA Batteries x1 Dropper x1 Screwdriver x1 Digital Refractometer x1

2.Display and Buttons

Display Areas and Buttons

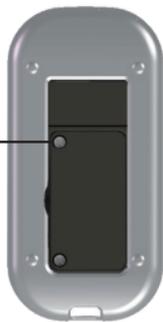


 Note: Please replace the battery when the  is displayed.

3.Preparations before Operation

3.1 Install the Battery

Turn the screw counterclockwise to open the battery hatch.



Put 1 piece of 1.5V battery into the cabin in the right way and recover the cabin again.



3

3.2 Install the Wrist Strap



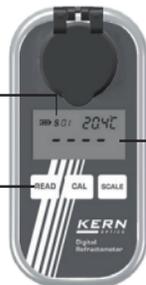
Properly Install the wrist strap into the hole at the bottom of the instrument.

4.Booting and Measurement

4.1 Booting

The multi-function display area shows the current scale number.

Press "READ" Button to Turn On



If there is no sample on the drip, it will display "dash"

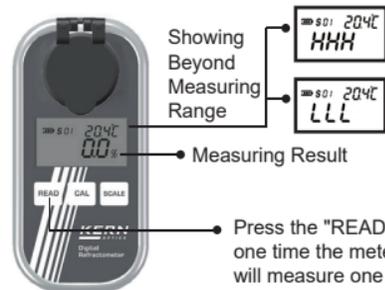
4

Note :

1. When used outdoors, please avoid strong light so as not to affect the measurement accuracy.
2. Please keep the instrument in a stable and still statement and position.

4.2 Measurement

After turn on, clear the distilled water and dry the sample plate, drip 0.2~0.3ml sample then close the cover to measure.



5

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, the multi-functions display area would return back to scale showing status.



The multi-function area would show remaining times during the automatic measurement.

5.Zero Calibration

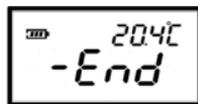
The meter only supports pure water calibration. The calibration method is as following drop 0.2-0.3ml pure water then close the cover to measure.



LCD Flashing Display

Press 'CAL' button for 2 seconds to enter the calibration status Press "CAL" button for 2-3 seconds till see the 'CAL' flashing

Press "CAL" button once again during the 'CAL' flashing to start to calibrate. When the calibration is completed showing as following. If no any operations for 10seconds the instrument would return back to booting status.



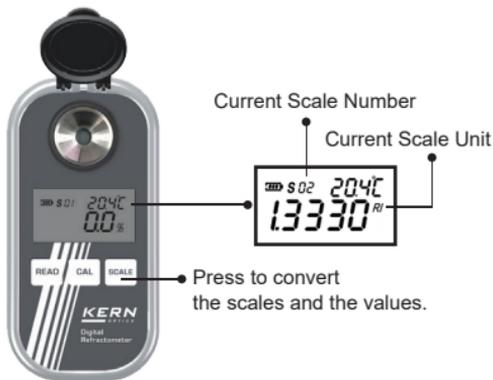
If fail to complete the calibration, multi-function display area would show an error code.



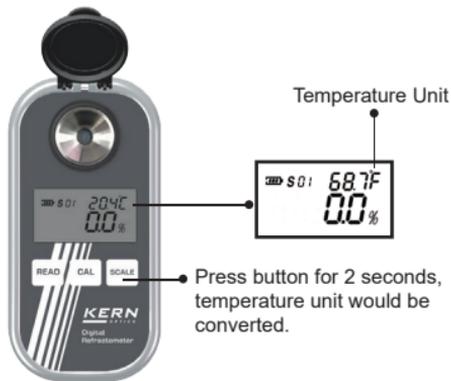
Temperature exceed the limitations, other error codes could be checked in the appendix error code page.

6.Switch the Scales and Temperature Units

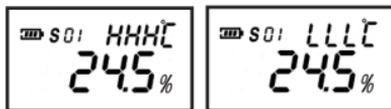
6.1 Scales Converting



6.2 Temperature System Converting



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



7. Turn Off

If without any operations for 1 minute, the instrument would be automatically turned off.

8. 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 the 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%~50.0%	±0.2%	0.1%
	0.0%~90.0%	±0.2%	0.1%
Temperature	0.0~40.0°C	±0.5°C	0.1°C
	32.0~104.0°F	±0.9°F	0.1°F
Dimension	121*58*25mm		
Net weight	90g (excluding battery)		

The Error Codes Table:

code	Instructions
A01	Beyond the scope of calibration temperature. (0.0°C~40.0°C)
A02	During calibration, no solution or solution wrong.
A03	This instrument has a hardware failure.

Model	Scale	No.	Range	Unit	Resolution	Accuracy
ORM 50BM	Brix	S01	0.0-50.0	%	±0.1%	±0.2%
	Refractive Index	S02	1.3330-1.4200	nD	0.0001nD	±0.0003nD
ORM 1RS	Brix	S01	0.0-90.0	%	0.1%	±0.2%
	Refractive Index	S02	1.330-1.5177	nD	0.0001nD	±0.0003nD
ORM 1SU	Fructose	S01	0.0-66.9	%	0.1%	±0.2%
	Glucose	S02	0.0-50.0	%	0.1%	±0.2%
	Brix	S03	0.0-90.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.5177	nD	0.0001nD	±0.0003nD
ORM 2SU	Lactose	S01	0.0-16.5	%	0.1%	±0.2%
	Maltose	S02	0.0-16.6	%	0.1%	±0.2%
ORM 1HO	Dextan	S03	0.0-10.6	%	0.1%	±0.2%
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Honey Water	S01	5.0-38.0	%	0.1%	±0.2%
	Honey Baume	S02	33.0-48.0	°Bé	0.1	±0.2
ORM 1NA	Brix	S03	0.0-90.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.5177	nD	0.0001nD	±0.0003nD
	Salinity (NaCl) %	S01	0.0-26.0	%	1%	±2%
	Salinity (NaCl) ‰	S02	0-260	‰	1%	±2%
ORM 1SW	Specific Weight	S03	1.000-1.220	-	0.001	±0.002
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S05	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Saltinly Seawater	S01	0-100	‰	1%	±2%
ORM 1AL	Clarity Seawater	S02	0-57	‰	1%	±2%
	Specific Weight	S03	1.000-1.070	-	0.001	±0.002
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S05	1.3330-1.4200	nD	0.0001nD	±0.0003nD
ORM 1BR	Alcohol Mass	S01	0-72	%	1%	±1%
	Alcohol Vol	S02	0-60	%	1%	±1%
	Brix	S03	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.4200	nD	0.0001nD	±0.0003nD
ORM 1WN	Plato	S01	0.0-30.5	°P	0.1	±0.3
	SG Wort	S02	1.000-1.130	-	0.001	±0.002
ORM 1CO	Brix	S03	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Chechale	S01	0.0-150.0	°Oé	1	±2
	Verf's	S02	0.0-22.0	%	0.1%	±0.2%
ORM 2WN	KMW (Babo)	S03	0.0-25.0	-	0.1	±0.2
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Chechale France	S01	0.0-230.0	°Oé	1	±2
	Verf's	S02	0.0-22.0	%	0.1%	±0.2%
ORM 1CO	KMW (Babo)	S03	0.0-25.0	-	0.1	±0.2
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Coffee TDS 1	S01	0.0-25.0	-	0.1	±0.2
	Brix	S02	0.0-50.0	%	0.1%	±0.2%
ORM 2CO	Refractive Index	S03	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Coffee TDS 2	S01	0.00-25.00	-	0.01	±0.20
ORM 1UN	Brix	S02	0.00-30.00	%	0.01%	±0.20%
	Refractive Index	S03	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Urine Human	S01	1.000-1.050	-	0.001	±0.002
	Serum Protein	S02	0.0-12.0	g/100ml	0.1	±0.2
ORM 2UN	Brix	S03	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Urine Cat	S01	1.000-1.060	-	0.001	±0.002
	Urine Dog	S02	1.000-1.060	-	0.001	±0.002
ORM 1CA	Brix	S03	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S04	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Cleaner	S01	(-60.0)-0.0	°C	0.1°C	±0.5°C
	AdBlue	S02	0.0-51.0	%	0.1%	±0.2%
ORM 2CA	Battery Fluid	S03	1.000-1.500	-	0.001	±0.005
	Brix	S04	0.0-50.0	%	0.1%	±0.2%
	Refractive Index	S05	1.3330-1.4200	nD	0.0001nD	±0.0003nD
	Ethylenglycol (%)	S01	0.0-100.0	%	0.1%	±0.6%
ORM 2CA	Ethylenglycol (°C)	S02	(-60.0)-0.0	°C	0.1°C	±0.5°C
	Propylenglycol (%)	S03	0.0-100.0	%	0.1%	±0.6%
	Propylenglycol (°C)	S04	(-60.0)-0.0	°C	0.1°C	±0.5°C
	Brix	S05	0.0-90.0	%	0.1%	±0.2%