

# DIGITAL REFRACTOMETERS – TYPE: DESKTOP

PROFESSIONAL MEASURING



## KERN Pictograms

 <b>360° rotatable microscope head</b>	 <b>Fluorescence illumination for compound microscopes</b> With 100 W mercury lamp and filter	 <b>Integrated scale</b> In the eyepiece	 <b>Battery operation</b> Ready for battery operation. The battery type is specified for each device.
 <b>Monocular Microscope</b> For the inspection with one eye	 <b>Fluorescence illumination for compound microscopes</b> With 3 W LED illumination and filter	 <b>SD card</b> For data storage	 <b>Battery operation rechargeable</b> Prepared for a rechargeable battery operation
 <b>Binocular Microscope</b> For the inspection with both eyes	 <b>Phase contrast unit</b> For a higher contrast	 <b>USB 2.0 interface</b> For data transmission	 <b>Plug-in power supply</b> 230V/50Hz in standard version for EU. On request GB, AUS or USA version.
 <b>Trinocular Microscope</b> For the inspection with both eyes and the additional option for the connection of a camera	 <b>Darkfield condenser/unit</b> For a higher contrast due to indirect illumination	 <b>USB 3.0 interface</b> For data transmission	 <b>Integrated power supply unit</b> Integrated in microscope. 230V/50Hz standard EU. More standards e.g. GB, AUS or USA on request.
 <b>Abbe Condenser</b> With high numerical aperture for the concentration and the focusing of light	 <b>Polarising unit</b> To polarise the light	 <b>WIFI data interface:</b> For transmitting of the picture to a mobile display device	
 <b>Halogen illumination</b> For pictures bright and rich in contrast	 <b>Infinity system</b> Infinity corrected optical system	 <b>HDMI digital camera</b> For direct transmitting of the picture to a display device	
 <b>LED illumination</b> Cold, energy-saving and especially long-life illumination	 <b>Zoom magnification</b> For stereomicroscopes	 <b>PC software</b> To transfer the measurements from the device to a PC.	 <b>Package shipment</b> The time required to manufacture the product internally is shown in days in the pictogram.
 <b>Incident illumination</b> For non-transparent objects	 <b>Auto-focus</b> For automatic control of the focus level	 <b>Automatic temperature compensation</b> For measurements between 10 °C and 30 °C	 <b>Pallet shipment</b> The time required to manufacture the product internally is shown in days in the pictogram.
 <b>Transmitting illumination</b> For transparent objects	 <b>Parallel optical system</b> For stereomicroscopes, enables fatigue-proof working	 <b>Protection against dust and water splashes IPxx:</b> The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989+A1:1999+A2:2013	
 <b>Fluorescence illumination</b> For stereomicroscopes			

## Abbreviations

<b>C-Mount</b>	Adapter for the connection of a camera to a trinocular microscope	<b>SLR camera</b>	Single-Lens Reflex camera
<b>FPS</b>	Frames per second	<b>SWF</b>	Super Wide Field (Field number at least $\varnothing$ 23 mm for 10 $\times$ eyepiece)
<b>H(S)WF</b>	High (Super) Wide Field (Eyepiece with high eye point for wearers of glasses)	<b>W.D.</b>	Working Distance
<b>LWD</b>	Long Working Distance	<b>WF</b>	Wide Field (Field number up to $\varnothing$ 22 mm for 10 $\times$ eyepiece)
<b>N.A.</b>	Numerical Aperture		

## KERN Models A – Z

OAB-L _____	110-111
OBE-12 · OBE-13 _____	16
OBE-S _____	67
OBL-12 · OBL-13 _____	16
OBL-14 · OBL-15 _____	18
OBL-S · OBN-S _____	68
OBN-13 · OBN-15 _____	20
OBN-14 _____	22
OBS-1 _____	10
OBT-1 _____	12
OCM-1 _____	24
ODC-2 _____	89
ODC-82 · ODC-83 · ODC-84 _____	86
ODC-85 · ODC-86 _____	87
ODC-87 · ODC-88 · ODC-89 _____	88
OIV-2 _____	64
OIV-3 _____	63
OIV-6 _____	65
OKM-1 _____	27
OKO-1 _____	29
OLM-1 _____	31
OPO-1 _____	34
ORA _____	94-100
ORL-B _____	107
ORM _____	101-106
OSE-4 · OZL-9 · OZM-9 _____	73
OSE-42 _____	38
OSF-4G _____	40
OXM-9 _____	90
OZB-H _____	82
OZB-IR _____	84
OZB-M _____	75-79
OZB-UE _____	81
OZB-UP _____	80
OZG-4 _____	58
OZL-44 _____	42
OZL-45 _____	48
OZL-45R _____	50
OZL-46 _____	44
OZL-47 _____	46
OZL-S _____	69
OZM-5 _____	52
OZM-9 _____	72
OZM-S · OZP-S _____	70
OZP-5 _____	54
OZS-5 _____	56
OXM-9 (Software OXM 901 · OXM 902) _____	90

## KERN Customer Consultants

With questions about our products and services, we will be happy to advise you:

UK, IE, IS, FR, Maghreb, BE, LUX



Maren Möwert  
Tel. +49 7433 9933 - 132  
Mobil +49 151 46143240  
maren.moewert@kern-sohn.com

Technical sales KERN Optics



Ralf Gutbrod  
Tel. +49 7433 9933-306  
optics@kern-sohn.com

DK, SE, FI, NO, PL, LV, LT, EE



Mark Hauder  
Tel. +49 7433 9933 - 310  
Mobil +49 160 3378426  
mark.hauder@kern-sohn.com

Category Manager KERN Optics



Nicole Lebherz  
Tel. +49 7433 9933-201  
optics@kern-sohn.com

GR, CY, BG, HU, RO, SK, CZ, AL,  
Ex-Yugoslavia, GUS



Ariana Sevcenco  
Tel. +49 7433 9933 - 203  
Mobil +49 151 72434692  
ariana.sevcenco@kern-sohn.com

Sales & Marketing Manager



Stephan Ade  
Tel. +49 7433 9933-121  
Mobil +49 171 3060086  
ade@kern-sohn.com

North America, Near- & Middle East,  
Africa, Asia, Oceania, TR



Corinna Matthes  
Tel. +49 7433 9933 - 215  
Mobil +49 151 44568364  
corinna.matthes@kern-sohn.com

## KERN Hotlines

Technical questions about our products?  
You will find assistance here quickly: **+49 7433 9933- ...**



### Service Hotline

→ 199

for general technical questions about your KERN product

### Optical Devices

→ 777

for all technical questions concerning our microscopes, microscope cameras, refractometers, etc.

### Laboratory and Analytical Balances

→ 444

for all technical questions concerning our high quality precision balances, analytical balances (especially with electromagnetic force-compensated measuring systems, tuning fork and high application density)

### SAUTER Measuring Instruments

→ 555

for all technical questions concerning our SAUTER measuring instruments, test benches, force measuring accessories (clamps etc.), SAUTER software

### System Solutions Industry 4.0

→ 200

for all technical questions concerning the interlocking of the latest information and communication technology with our scales, load cells and measuring devices as well as questions about KERN software

### Calibration and Verification Service

→ 196

for any questions concerning our calibration and verification service



Transport and storage case



Rear view, screw-on battery compartment cover

## Digital refractive index measurement for laboratories and the industry for multi-application ▶ Laboratory refractometer

### Features

- The models in the KERN ORL range are accurate, universal and maintenance-free digital desktop refractometers
- Other key features are the extra-large measuring range and a high degree of accuracy
- With their handy design, they are ideal for convenient and rapid everyday use
- The large, easy-to-read multi-function display with integrated temperature display supports the user to reliably determine the measurement
- The integrated automatic temperature compensation (ATC), avoids the manual conversion of the measurement. This allows a quick and efficient usage of the instrument

- Rapid, user-friendly calibration of the refractometer is possible at any time using standard commercial distilled water
- Mean value measurement (15 measurements)
- The following accessory-parts are included:
  - Pipette
  - Storage box
  - USB cable
  - Power adapter
  - Screwdriver

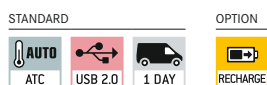
### Technical data

- Measurement temperature: 0 °C – 40 °C
- Overall dimensions W×D×H 180×100×55 mm
- Net weight approx. 365 g (without battery)
- Power supply: USB connection, as an alternative 1 × battery 3.7 V 3000 mA (not included with delivery)
- ATC (Automatic Temperature Compensation)
- Minimum sample volume: 0,3–0,4 ml
- Automatic energy management (AUTO-OFF after 3 Minutes)
- Mean value measurement (15 measurements)

### Accessories

- Rechargeable Battery 3,7 V 3000 mA, KERN ORL-A2007, € 65,-
- ORA-A1010 Calibration liquid

! Also available with calibration certificate, see page 108!



Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
<b>KERN</b>					
<b>ORL 94BS</b>	Brix Refractive index	0 – 94 % 1,3330 – 1,5290 nD	± 0,1 % ± 0,0002 nD	0,1 % 0,0001 nD	<b>920,-</b>



## Your partner for calibration services, management of test equipment and support

### Features

- Any analogue or digital refractometer will only give correct results if it is checked regularly, i.e. calibrated correctly and adjusted when required. A refractometer or another measuring device is only a reliable measuring and checking tool if it is calibrated and this calibration is documented as part of a quality procedure
- Measuring "correctly" is of elementary significance, as it is not unusual for inaccurate or "wrong" measurements to have expensive economic consequences. Calibration or establishing the accuracy of checking equipment must therefore be carried out by laboratories throughout the world

- In the context of standard requirements for monitoring checking equipment, every company with a Quality Management system is obliged to test and document its measuring equipment at regular intervals
- The refractometer calibration certificate documents the intended measuring functionality and confirms the measuring accuracy of your refractometer to you

### Important

- Refractive index standard traceable to SRM<sup>1</sup> of NIST<sup>2</sup> and PTB<sup>3</sup>
- This service is not possible for the following refractometer models:
  - ORA 6HA / 6HB
  - ORA 1RE
  - ORA 4RR
  - ORA 1GG / 2GG
- Calibration of products from other manufacturers is possible on request

<sup>1</sup>Standard reference material

<sup>2</sup>National Institute of Standards and Technology

<sup>3</sup>Physikalisch-Technische Bundesanstalt (German metrology institute)

Model	Description	Price excl. of VAT ex works €
KERN 961-290	Calibration certificate for refractometers on initial calibration	129,-
KERN 961-290R	Calibration certificate for refractometers on recalibration	129,-

**KERN & SOHN GmbH**

Balances, Test Weights, Microscopes,  
DAkkS Calibration Laboratory  
Ziegelei 1  
72336 Balingen  
Germany  
Tel. +49 7433 9933-0  
info@kern-sohn.com  
www.kern-sohn.com

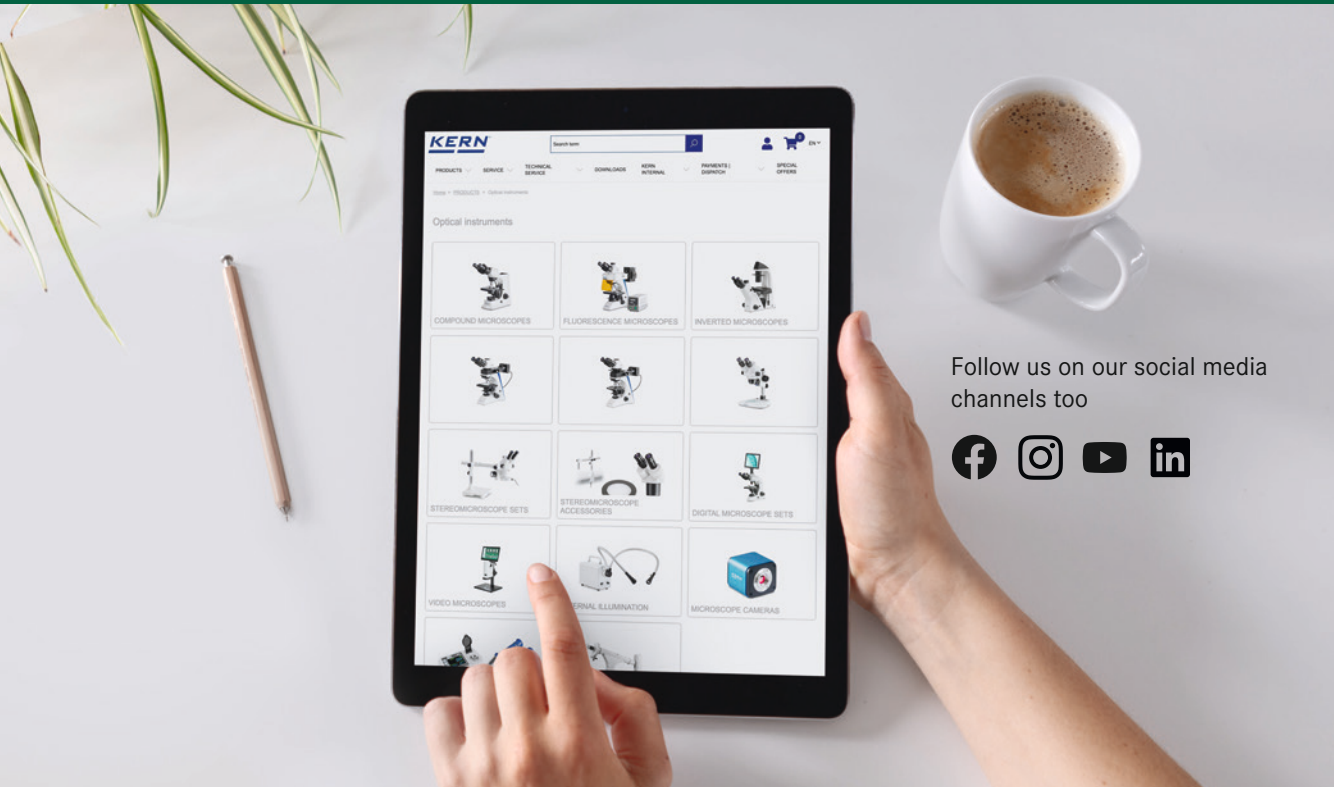
**The oldest Precision Balance  
Factory in Germany**

**180 YEARS**  
since 1844  
**KERN & SOHN**

**Discover the multifaceted World of Balances, Microscopes and Measuring Technology from KERN online: [www.kern-sohn.com](http://www.kern-sohn.com)**



- Full KERN & SAUTER Product Range
- Convenient 24/7 Ordering
- Selection of more than 5,000 Items across Weighing and Measuring Technology, Optical Instruments as well as Accessories and Services
- Extensive Information and useful Download Options
- Technical Product Data Sheets
- Operating Instructions
- Descriptive Image and Video Material
- Useful KERN Services
- Technical Glossary
- KERN Dealer Portal
- Practical Filter and Search Functions



Follow us on our social media channels too



Printed in Germany by KERN & SOHN GmbH  
z-co-en-kr-2024 1

