



## KERN Professional Line POL Microscope User Guide

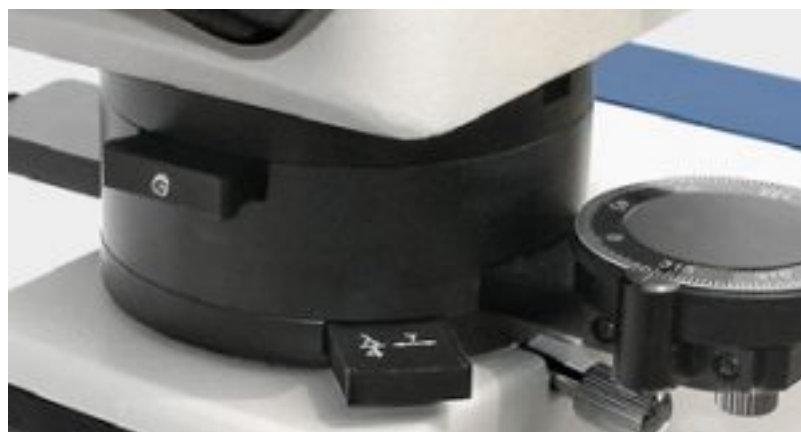
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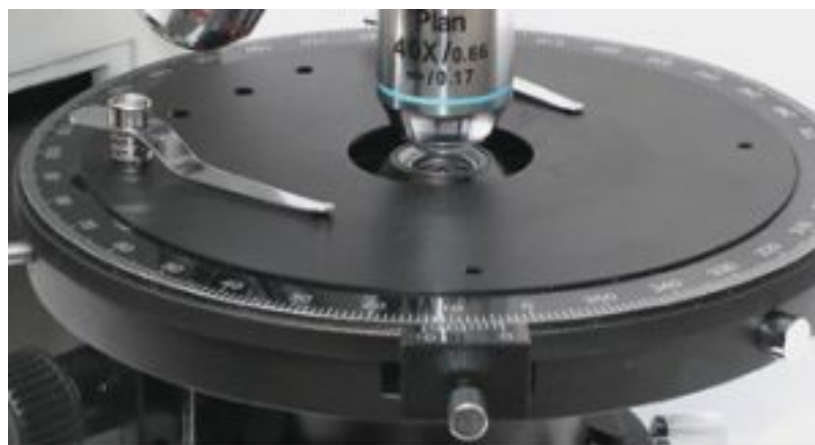
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**KERN Professional Line POL Microscope User Guide**



**Bertrand lens,  $\lambda$  Slip, 360° rotatable analyser (removable)**



**Center-adjustable and turnable polarisation stage**



**“Swing-Out” condenser**

## **PROFESSIONAL LINE POL**

The flexible and powerful polarising microscope for all professional applications with reflected and transmitted light.

### **Features**

- This device is a professional, fully-equipped polarising microscope, which uses the polarisation of light to analyse minerals, crystals and isotropic materials
- The KERN OPO 185 is a combi variant of reflected and transmitted LED illumination. A complete Koehler illumination is integrated as standard
- A height-adjustable 0,9/0,13 swing-out Abbe condenser which can be centred, for complete Koehler illumination is part of the standard equipment
- A 360° revolving stage with 1° division, 6' fine division and locking function is integrated as standard
- As standard KERN OPO 185 is fitted with a complete polarising unit with scale, a Bertrand lens, a  $\lambda + \frac{1}{4} \lambda$  Slip as well as a quartz wedge
- A large selection of accessories such as, for example, a mechanical stage attachment as well as further objectives for a long working distance and filter units are also available
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- A C-Mount adapter is required to connect a camera. You can select this adapter from the following model outfit list
- Please find detailed information in the following model outfit list

### **Scope of application**

- Mineralogy, texture observations, material testing, observation of crystals

Applications/Samples

- More complex samples with polarising properties

Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined
- Diopter adjustment: One-sided
- Overall dimensions W×D×H  
500×200×500 mm
- Net weight approx. 14,5 kg



Model	Standard configuration					
	Type	Eyepiece	Objective quality	Objectives	Illumination	
QPD 185	Binocular	HWF 10×/W D: 25 mm	Infinity Plan	Non-stress 4× / 10×/20×/40×/100×	DHFL80 (incident + transmitted)	

Modellausstattung		Model QPD 185	Serial number	
		QPD 185		
Eyepieces (20 mm)	HWF 10×/D: 25 mm (adjustable)	✓	QBS-A1581	
	HWF 10×/D: 25 mm (ocular 8,1 mm) (adjustable)	✓	QBS-A1582	
Non-stress Infinity Plan objectives	4×/0,10 NA D: 12,1 mm	✓	QBS-A1284	
	10×/0,25 NA D: 4,84 mm	✓	QBS-A1285	
	20×/0,40 (spring)/NA D: 2,41 mm	✓	QBS-A1286	
	40×/0,65 (spring)/NA D: 0,65 mm	✓	QBS-A1287	
Infinity Plan objectives (no cover glass) for long working distance	5×/0,13 NA D: 18,54 mm	□	QBS-A1583	
	10×/0,25 NA D: 18,48 mm	✓	QBS-A1584	
	20×/0,40 NA D: 8,55 mm	□	QBS-A1281	
	30×/0,70 (spring)/NA D: 1,88 mm	□	QBS-A1282	
	100×/0,85 (spring)/NA D: 0,68 mm	□	QBS-A1585	
Trinocular tube	• Siedentopf 30° inclined • Interocular distance 48 – 76 mm • Light distribution 100%	✓		
Analyzer unit with scale	360° rotatable, lockable	✓		

<b>Bertrand lens</b>	Built-in, centre-adjustable	✓	OBG-A1121	
<b>A = 1/4 Slip</b>	A-Slip and 1/4 Slip (combination)	✓	OBG-A1318	
<b>Quartz wedge</b>	1 - F1 Glass	✓	OBG-A1321	
<b>Revolving second stage</b>	360° rotatable, centre-adjustable, Division T°, Vertical Division R°	✓		
<b>Polarising attached mechanical stage</b>	Polarising attached mechanical stage	□	OBG-A1327	
<b>Spring-out Condenser</b>	N.A. 0.80, 12 spring-out automatic condenser (aperture diaphragm)	✓	OBG-A1107	
<b>Polarising unit with scale (transmitted)</b>	360° rotatable, lockable	✓		
<b>Koehler Illumination</b>	SH-LED spare bulb (transmitted)	✓	OBG-A1388	
<b>Illumination Polarising unit</b>	SH-LED spare bulb (incident)			
<b>Colour filters for transmitted illumination</b>	Blue	✓	OBG-A1173	
	Green	□	OBG-A1158	
	Yellow	□	OBG-A1155	
	Grey	□	OBG-A1150	

<b>C Mount</b>	T*	□	OBG-A1314	
	1.75x	□	OBG-A1508	
	1.5x (focus adjustable)	□	OBG-A1315	

✓ = Included with delivery

□ = Option

## Pictograms

 <b>360° rotatable microscope head</b> For the inspection with one eye	 <b>Fluorescence illumination for compound microscopes with SH-LED illumination and filter</b>	 <b>WLAN data interface</b> For transmitting of the picture to a mobile display device
 <b>Binocular Microscope</b> For the inspection with one eye	 <b>Phase contrast unit</b> For a higher contrast	 <b>HDMI digital camera</b> For direct transmitting of the picture to a display device
 <b>Binocular Microscope</b> For the inspection with both eyes	 <b>Barfield condenser unit</b> For a higher contrast due to indirect illumination	 <b>PE software</b> To transfer the measurements from the device to a PC
 <b>Trinocular Microscope</b> For the inspection with both eyes and the additional option for the connection of a camera	 <b>Polarising unit</b> To polarise the light	 <b>Automatic temperature compensation</b> For measurements between 10 °C and 50 °C
 <b>Abbe Condenser</b> with high numerical aperture for the concentration and the focusing of light	 <b>Infinity system</b> infinity corrected optical system	 <b>Protection against dust and water splashen IPxx</b> The type of protection is shown by the pictogram.
 <b>Halogen Illumination</b> For pictures bright and rich in contrast	 <b>Zoom magnification</b> For stereomicroscopes	



**LED illumination**  
Low energy saving and especially  
long-life illumination



**Backlight illumination**  
For non-transparent objects



**Transmitting illumination**  
For transparent objects



**Fluorescence illumination**  
For fluorescence microscopes



**Fluorescence illumination**  
for compound microscopes  
with 150 W mercury lamp and filter



**Parallel-optical system**  
For stereomicroscopes, enables  
fatigue-proof working



**Integrated scale**  
In the eyepiece



**SD card**  
For data storage



**USB 2.0 digital camera**  
For direct transmitting of the picture to a PC



**USB 3.0 digital camera**  
For direct transmitting of the picture to a PC



**Battery operation**  
Ready for battery operation. The battery  
type is specified for each device.



**Battery operation rechargeable**  
Prepared for a rechargeable battery  
operation



**Main adapter**  
230V/100V in standard version for EU.  
On request: US, AUS or JSA version.



**Power supply**  
Integrated in microscope. 230V/100V  
standard EU. More standards e.g.  
US, AUS or JSA on request.



**Package shipment**  
The time required to manufacture the  
product internally is shown in days in  
the pictogram.

## Abbreviations

### C Mount

Adapters for the connection of a  
camera to a binocular microscope

### FPS

Frames per second

### HDSVF

High Super Wide-Field (Eyepiece with  
high eye point for wearers of glasses)

### LWD

Long Working Distance

### N.A.

Numerical Aperture

### SLR

remains

Single-Lens Reflex camera

### SVF

Super Wide-Field (Field number at  
least 4/13 mm for 18x eyepiece)

### W.D.

Working Distance


### WF

Wide Field (Field number up to  
4/22 mm for 10x eyepiece)

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## Documents / Resources

	<p><a href="#">KERN Professional Line POL Microscope</a> [pdf] User Guide Professional Line POL Microscope</p>
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