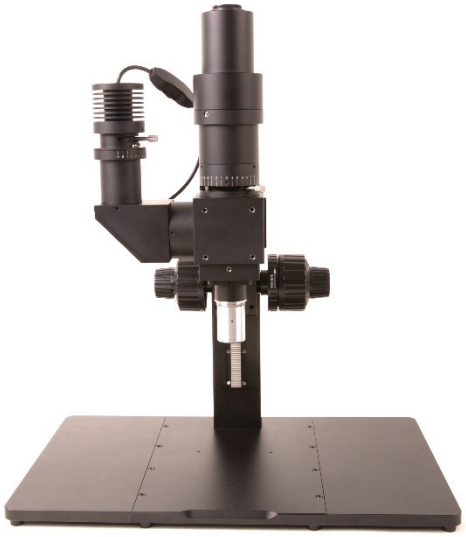
PLM100 Series Polarizing Microscope System



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1 System Principle

Polarizing microscope is a type of microscope used to study so-called transparent and opaque anisotropic materials. Any substance with birefringence can be clearly distinguished under a polarizing microscope. Of course, these substances can also be observed using staining methods, but some cannot and must be observed using a polarizing microscope. Reflective polarizing microscope is an essential instrument for studying and identifying substances with birefringence by utilizing the polarization characteristics of light.

2 System Parameters

- Standard working distance series/Long working distance series objectives(optional);
- Tube lens: 1x (The focal length is 180mm), different magnifications tube lens can be customized;
- Image size:25mm;
- Image wavelength:400-700nm;
- Camera interface: C-mount;
- Illumination: Kohler illumination;
- Light source:10W white/3W blue LED (optional);

Table 1 Standard working distance objective lens parameters (60mm parfocal length)

Order code	Magnification	NA	WD/mm	Focal length(mm)	Resolution(um)	OFOV(mm)	IFOV(mm)	Thread
DIC5XA	5X	0.15	23.5	40	2.2	5	25	M26*0.705
DIC10XA	10X	0.30	22.8	20	1.1	2.5	25	M26*0.705
DIC20XA	20X	0.40	19.2	10	0.8	1.1	25	M26*0.705
DIC50XA	50X	0.55	11.0	4	0.6	0.44	25	M26*0.705

Table 2 Long working distance objective lens parameters (95mm parfocal length)

Order code	Magnification	NA	WD/mm	Focal length(mm)	Resolution(um)	OFOV(mm)	IFOV(mm)	Thread
DICL2XA	2X	0.055	33.7	100	6.1	12.5	25	M26*0.705
DICL5XA	5X	0.14	33.6	40	2.2	5	25	M26*0.705
DICL10XA	10X	0.28	33.4	20	1.2	2.5	25	M26*0.705
DICL20XA	20X	0.34	29.5	10	0.8	1.25	25	M26*0.705
DICL50XA	50X	0.5	18.9	4	0.7	0.5	25	M26*0.705

3 Dimensions

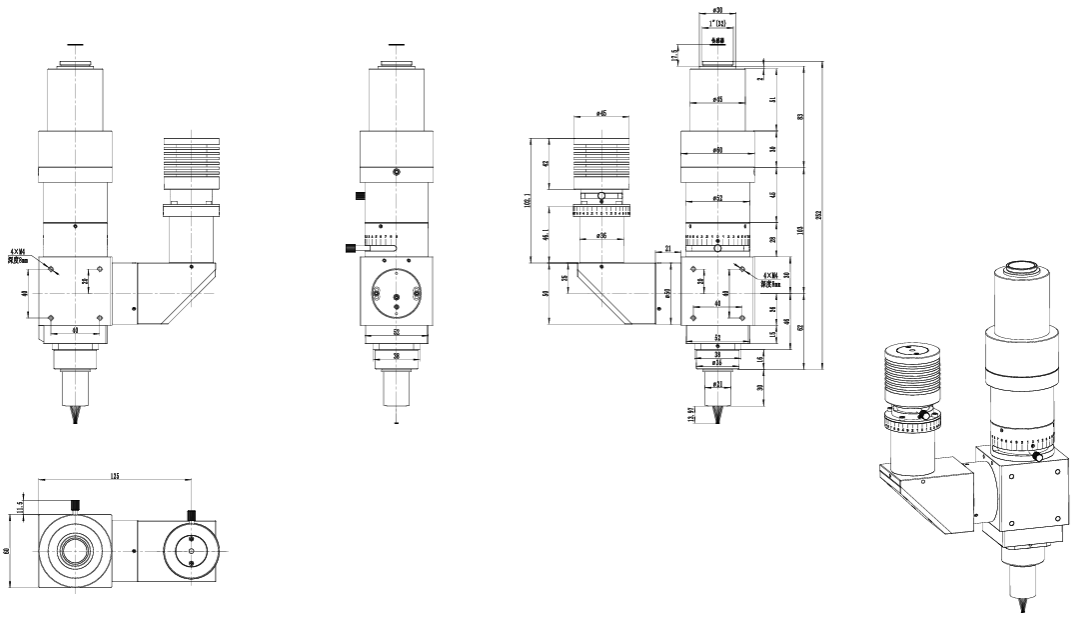

Figure 1 Dimension diagram of PLM100 polarizing microscope

4 Applications

4.1 Cleanliness Detection of LCD Screen Circuit

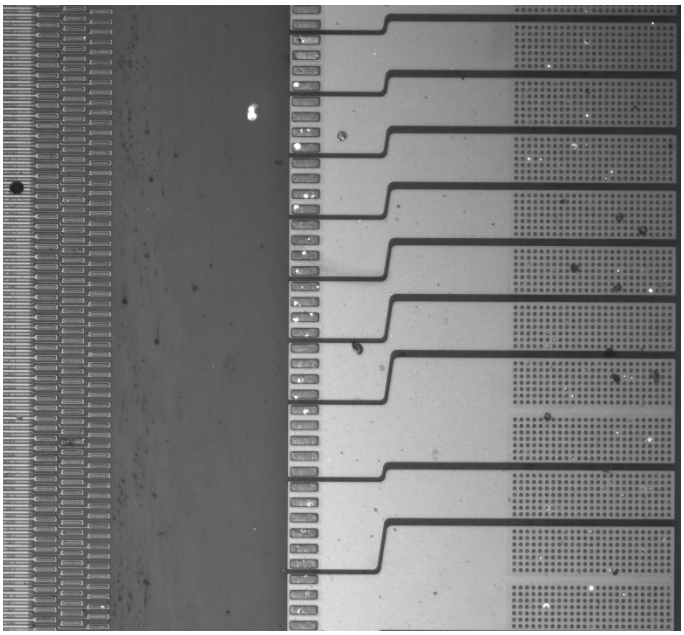

Figure 4 Metal oxide dirty spots inside the LCD screen

4.2 Geology, Petrology, Mineralogy, Crystal Structure Analysis

Ore is a natural rock containing valuable minerals. Ores are usually collected through mining and further

processed to extract the required minerals. Metal ores are usually oxides, sulfides, or silicates. Polarizing microscopy can be used for characteristic analysis of the crystal structure and composition of ores.

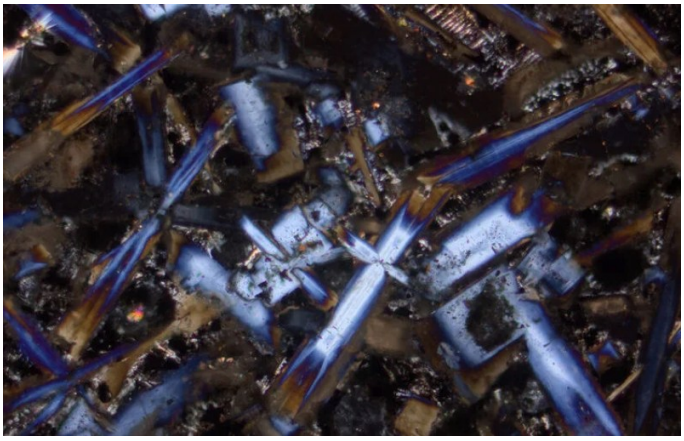

Figure 2 Ore taken by PLM100 polarizing microscope

4.3 Testing of Glass (Stress Birefringence or Inclusions), Plastics and Polymers (Stress Birefringence), Textiles and Fibers

Figure 3 shows the plastic shells taken by the bright-field metallographic microscope system and the PLM100 series polarizing microscope system. Due to the mechanical force of the plastic edge, the elastic effect of light will cause stress birefringence. Ordinary bright-field metallographic microscopy This phenomenon cannot be observed by the system, but the stress distribution can be sensed and analyzed by a polarized light microscopy system.

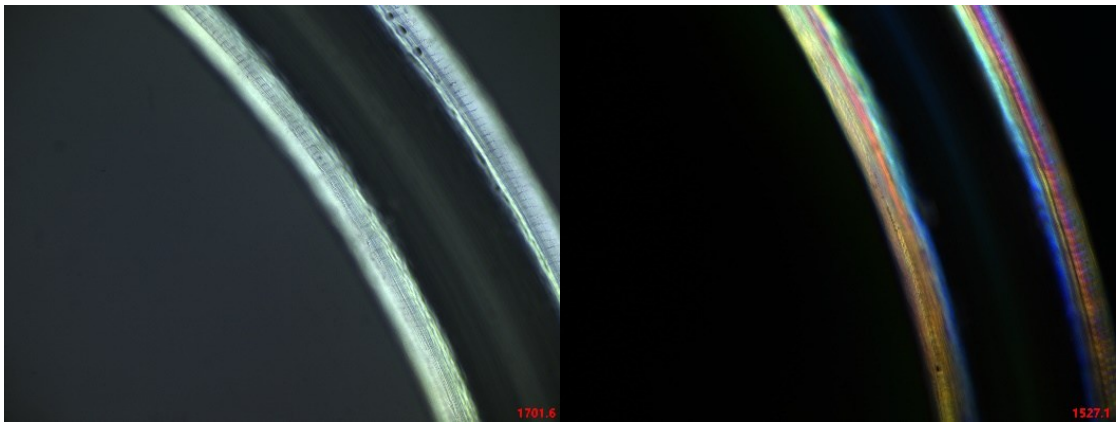

Figure 3 Actual photo of the surface of the plastic shell (left) using metallographic microscope system; (Right) using PLM100 polarizing microscopy

5 Contact information

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