Polarization Accessories

Soleil-Babinet Compensator

The Soleil-Babinet Compensator is a continuously variable, zero-order retarder (waveplate) which operates over a broad wavelength range. The classical design of the compensator consists of a long birefringent wedge and a fixed wedge mounted to a compensator plate. The retardance is adjusted by moving the position of the long wedge relative to the short wedge using the precision digital micrometer. This allows the retardance to vary continuously while maintaining a uniform retardance across the aperture at any given setting.

Thorlabs offers three models: The SBC-VIS and SBC-IR use crystalline quartz optics to cover a spectral range of 400-1000nm and 1000-2000nm respectively. The SBC-UV uses magnesium fluoride optics to extend the compensator range into the UV from 140-400nm.

The standard Soleil-Babinet Compensators are uncoated for broad spectral operation. To minimize reflection losses when using the compensator over narrow wavelength ranges, AR-coated versions are available upon special request.

Applications include precise measurements of unknown retardances, high resolution ellipsometry and birefringence compensation.

- Precision Retardation Measurements
- Uniform Retardance Over Full Aperture
- Three Wavelength Ranges (UV, VIS & IR)
- Continuously Variable Retardance
- Graduated Rotation Ring
- 45° Index Stops

Specifications:

- **Wavelength Range:**
  - 140-400nm (SBC-UV)
  - 400-1000nm (SBC-VIS)
  - 1000-2000nm (SBC-IR)
- **Retardance Adjustment:** 0 to 2π (full wave)
- **Clear Aperture:** 10mm Diameter
- **Beam Deviation:** <1 arcmin.
- **Transmitted Wavefront Error:** <λ/4
- **Surface Quality:** 40-20 Scratch Dig
- **Digital Readout Resolution:** 0.001mm
- **Rotation:** 360° Continuous
- **Rotation Division Scale:** 1° Increments
- **Detent Index Stops:** Every 45°

Compensator Software Interface

Plug into our SBC-COMM serial interface and use our compensator software to extend productivity of your Thorlabs’ Soleil Babinet Compensator. The software combines an easy to use graphical interface with the performance models for all of our compensators to allow the user to quickly calibrate the compensator and "dial in" the desired retardance at any wavelength.

Also included is a real-time mode which monitors the compensator position and gives instantaneous readouts of the compensator retardance at a user-specified wavelength.

Included are an RS232 serial interface module, SPC cable for the compensator, and a CD with LabVIEW® drivers and a stand-alone LabVIEW® runtime library.

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<th>ITEM#</th>
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Sales: 973-579-7227