

Spectrometer Accessory

BIP2.0 Integrating Sphere & Light Source



BIP2.0 is a compact, fiber coupled integrating sphere device designed as a sampling accessory for measuring diffuse reflectance using any fiber optic spectrometer from B&W Tek, Inc. The two inch diameter integrating sphere is machined from PTFE which is highly reflective (>97%) over a broad spectral range of 350 to > 2600nm.

The BIP2.0 includes a light source housing that contains a long-life 20 Watt Tungsten Halogen lamp which emits over the UV-Vis-NIR spectrum. A remote control port is provided on the rear for versatile remote On / Off modulation, operating current monitoring, and external operating current control. Slow ramp start is built into the source to ensure stability and long-life operation.

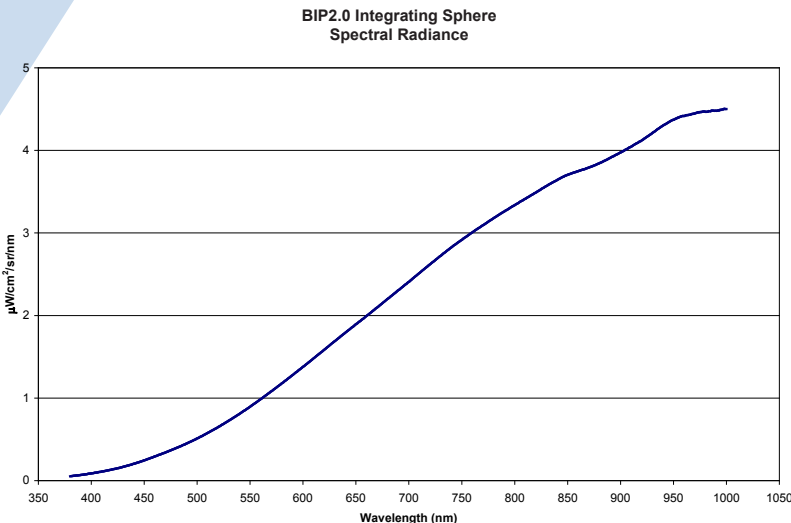
The housing includes a miniature fan and cooling fins that provide thermal stability of the light source. The BIP2.0 operates on a 12 V DC power adapter which is supplied with the device.

Highlights:

- > 97% Peak Reflectivity
- Spectral Range 350 to > 2600nm
- 20 Watt Tungsten Halogen
- Aux Port

Applications:

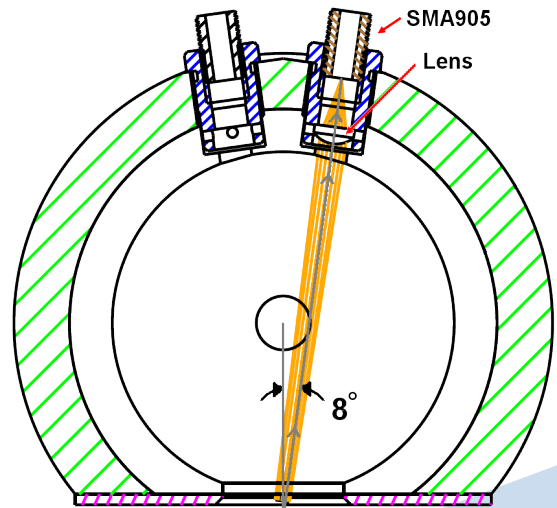
- Specular Included / Excluded Diffused Reflectance



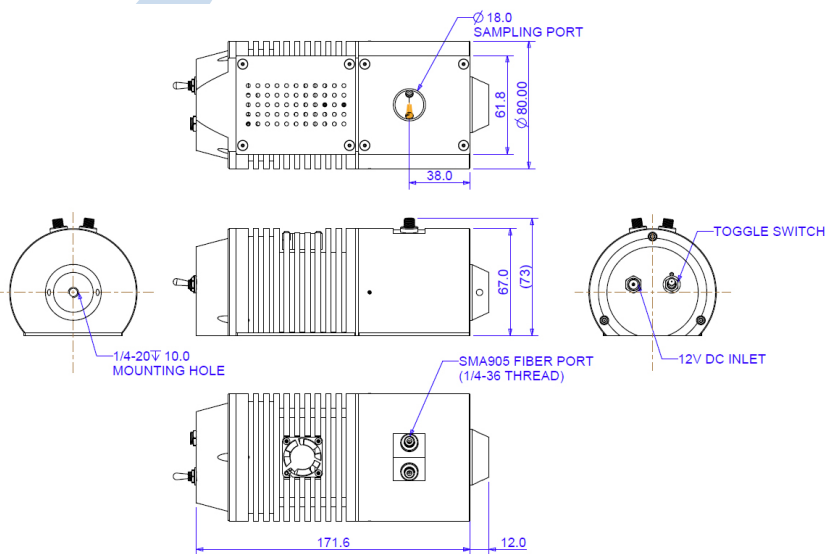
The use of an integrating sphere is required for reflectance measurements of diffuse surfaces, especially when spectral reflectance is used for the color measurement of materials. The BIP2.0 uses "d/8" geometry for reflectance measurement. The d/8 reflectance geometry is reciprocal to 8/d that would use an 8° illuminating beam and collect the diffuse reflectance. SMA 905 fiber optic connectors are positioned diametrically opposite the sample port to allow the spectrometer to view diffusely illuminated samples at an angle of 8° off normal, when fiber coupled. A lens inside the SMA905 connector restricts the field of view of the optical fiber to the sample port.

Specifications:

Integrating Sphere Diameter:	2 in (50.8mm)
Sample Port Diameter:	18 mm
Reflectance Geometry:	d/8°, specular included
Spectral Range:	350 to > 2600nm
Fiber Connectors:	SMA 905 (2)
Overall Dimensions:	196.6 mm (length) x 86 mm (diameter)
Weight:	2.5 lbs (1.2 kg)
Mounting:	1/4-20 threaded hole
Light Source	Tungsten Halogen Lamp
Lamp Rated Life:	2000 hours
Color Temperature:	2900 K (typical)
Operating Temperature:	0 to 40°C
Relative Humidity	0 - 85% RH non condensing
Modulation Port	4 pin RJ11 connector
Control Functions	On/Off Modulation, Current Monitoring, External Operating Current Control
Modulation Input	DC 0 - 1.25 V up to 1 kHz
Digital Modulation	TTL up to 100 kHz
Current Monitoring	DC Output 0 - 1 V corresponding to 0-1 A
AC Adapter Input	100 - 240 VAC 50/60 Hz
AC Adapter Output	12 V DC +/- 2.5% @ 2.5 Amps Max
Output Current Stability	+/- 0.1%



Dimensions (mm):



Experiment Setup

