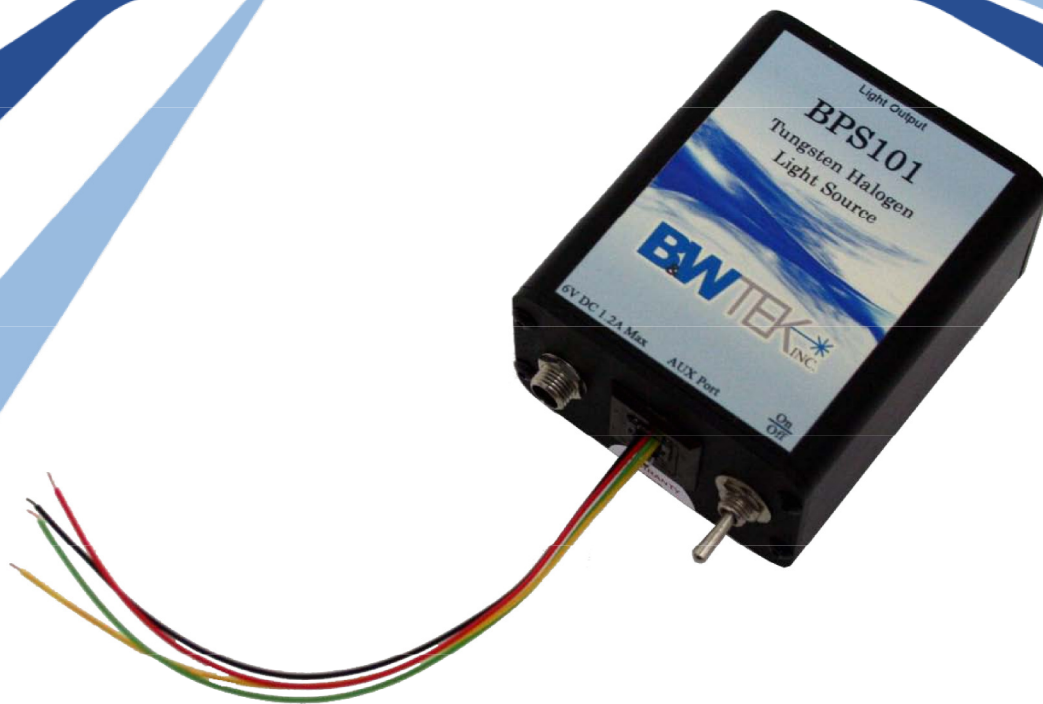


# BPS101



## BPS101 Tungsten Halogen Light Source User Manual

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# BPS101

## 1) Introduction

The BPS101 is a low-cost high-performance constant current optical intensity halogen tungsten light source. The BPS101 can deliver up to one order of magnitude improvement in output power stability compared to conventional sources operated under constant current mode. An RJ11 control port is provided for remote on/off control, operational current monitoring, and operational current control. Controlled slow ramp startup is built into the source to ensure stability and long lifetime operation. The BPS101 is pre-aligned so there is no need for fiber alignment and is ideal for spectroscopic applications in Visible and Near IR ranges.



**BPS101 Tungsten Source**

## 2) Specifications

See Product Datasheet for Specifications.

## 3) Check Contents

Before installation please check your package contents. They may include:

- One BPS101 light source unit.
- One power supply adapter with plug kit.
- One RJ11 connector with 4 wires.



**BPS101**



**Power Supply Adapter  
with plug kit**



**RJ11 Connector**

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# BPS101

## 4) Installation

- Plug in the power supply connector into the matching receptacle on the rear panel. Hand tighten the power supply connector to the port of the light source

**Power Supply  
Connection**



- Plug the power supply AC input into an outlet, 100- 240 V AC.
- Turn on the power switch located at the rear panel. The light source will start to emit after a short delay and slow ramping.
- The light source takes 30 – 40 minutes to stabilize.
  - Note: If the Light Source is turned off, and then right back on you must allow time for it to stabilize again.
- Connect an optical fiber to the emission port of BPS101
- Hand-tighten the optical fiber to the BPS101.



**Connect Optical Fiber to the BPS101**



## 5) External Trigger

The supplied RJ11 connector may be used remote control purposes (external trigger function).

The below table describes the pinouts and color code for each wire.



**Connect RJ11 Connector to Remote Port**

**Table 1: Remote Port Definitions**

Pin #	Color	Description
1	Black	Ground
2	Red	Analog control input: 0 V DC: Minimum output power setting 5 V DC: Maximum output power setting
3	Green or Blue	TTL remote On/Off or Modulation Control Input Logic "1" Output enabled (digital mod) Logic "0" Output disabled
4	Yellow	Lamp operating current monitoring output: 1.0 V DC corresponds to approximately 1.0 A

# BPS101

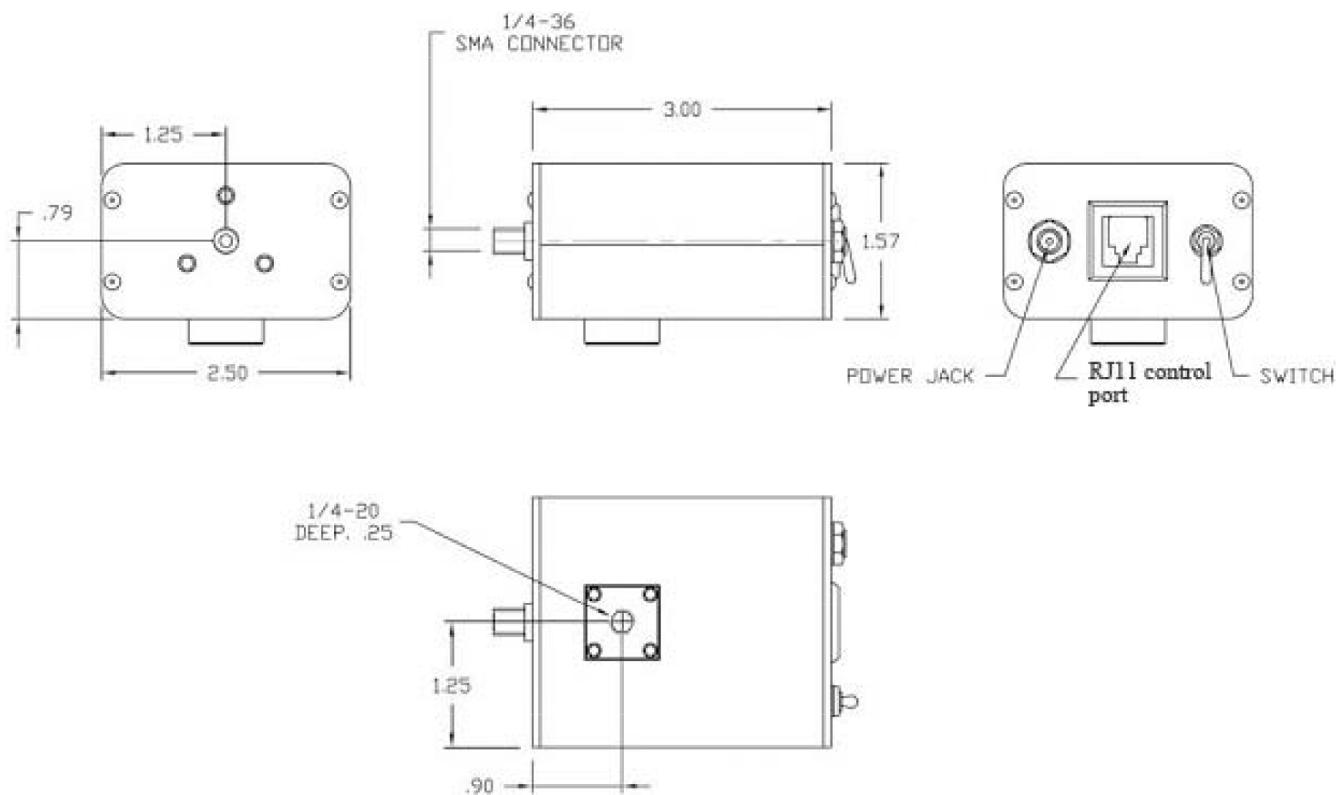
## **\*\*NOTES\*\***

- The BPS101 operation is dependent on the on/off power switch.
  - The unit will function without the RJ11 remote control connector.
  - An external variable DC voltage (0 ~ 5V) can be applied to PIN 2 (Red wire). It can control the lamp current, thus changing the optical power output. You must make sure that the Input current from the Power Supply matches the impedance of the light source. If they do not match, a proper Current to Voltage curve will not be obtainable.
    - See Appendix B for more information.
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# BPS101

## Appendix A: Dimensions

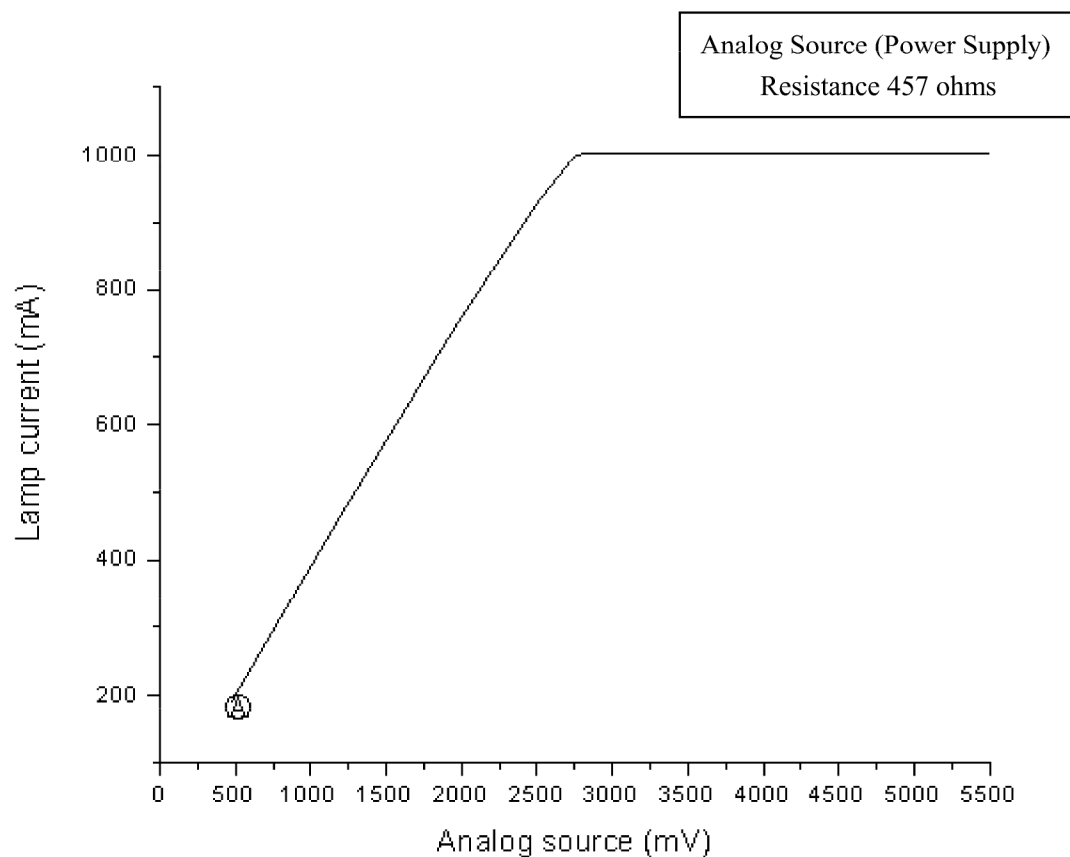
Dimensional Drawings (inches)



## Appendix B: Analog Source Supply

When an analog source is applied to the PIN 2 (Red wire) of the RJ11 cable, a typical input voltage versus lamp current is shown below.

### Analog Input vs. Lamp Current



#### Notes:

- Ⓐ Threshold is expected to be shifted by analog source impedance
    - Analog input range 0-5V
    - BPS101 Input resistance 3.5k ohms
    - The lamp current can be calculated by measuring the voltage across the yellow wire (accuracy is +/- 10%.) and black wire.
      - Lamp current monitoring accuracy is +/- 10% at maximum current
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