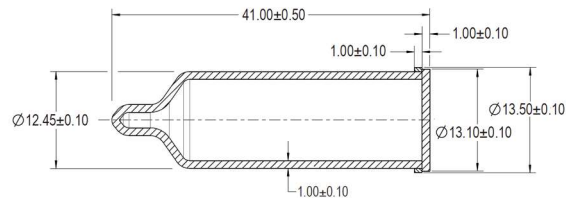


Photoionization detection (PID) is one of the advanced-sensing gas detection technologies. It is widely used in volatile organic compound (VOC) detection. The heart of the PID is an ultraviolet (UV) lamp that emits photons in the vacuum-ultraviolet region. The lamp is an enclosure glass tube with a crystal window attached on one end. The lamp is filled with gases. The intensity of UV output and photon energy depends on the type of gas used to fill the lamp and the crystal used as a transmission window. The high-energy lamps with an energy level of 11.7 eV using lithium fluoride (LiF) crystal windows enable the ionization of gases with higher ionization potentials, like chloromethane and acetyl chloride. The disadvantage of these high-energy lamps is that they absorb moisture, causing the LiF crystal, which is chemically unstable, to deteriorate more quickly than the popular and widely used 10.6 eV lamps. Even in ideal conditions without water vapor, the higher-energy ultraviolet photons emitted by these lamps naturally lead to degradation in the transmission of the LiF windows due to a phenomenon called solarization. Presently available technology limits the typical lifespan of these lamps, ranging from three months with intermittent usage to around 100 hours of continuous operation.

Product Dimensions



Specifications and Product Selection

- **Photon energy** 11.7 eV
- **Ignition time** 100 ms
- **Typical Ignition voltage** 1800 V, 100 KHz
- **Operating current** 50 – 80 mA
- **Typical RF power input** 0.2 W
- **Designed life span** 100 hours
- **Warranty** 3 months

Lamp Type	Part Number	Applications
1/2" UV Lamp, 11.7eV	UVL-117L-1111	Detection of VOCs with higher ionization potentials.