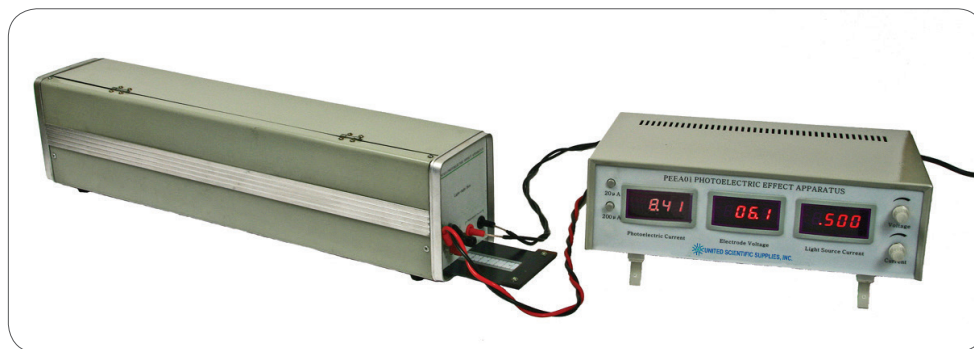


Photoelectric Effect Apparatus



- Study electron photoemission from a metal surface
- Obtain the characteristic curves of a vacuum photocell
- Explore the effect of illumination intensity using the inverse square law

The **Photoelectric Effect Apparatus** allows the photoelectric emission from a mixed metal cathode in vacuum to be studied. It consists of a light-tight box connected to a control and measurement unit by shielded cables.

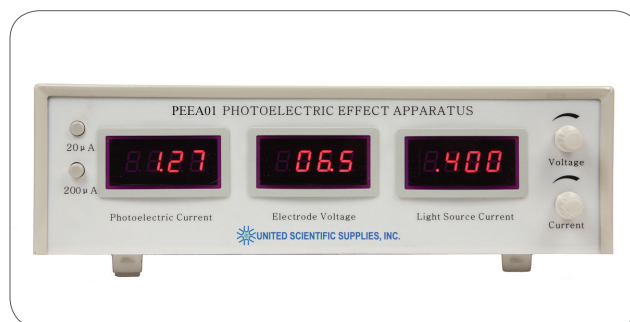
The **light-tight box** contains a vacuum phototube with a Cs/Sb cathode and a current-controlled incandescent lamp mounted on a slide operated from outside the box to vary the illumination of the phototube.

The **control and measurement unit** contains an adjustable highly stabilized lamp power supply. The current is indicated on a three-digit display. A second, independent, highly stabilized voltage source controlled by a multi-turn potentiometer applies a precise dc extraction voltage to the phototube electrodes. The applied voltage is indicated on a three-digit display. The resulting photocurrent is measured by a sensitive amplifier and indicated on a 3-1/2-digit display.

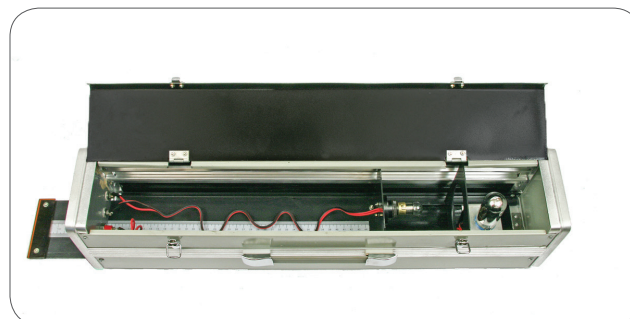
The **apparatus shows** the linear relation between light intensity and emission current and demonstrates the space charge dominated and saturation regions of the emission current relationship to the extraction voltage.

Specifications

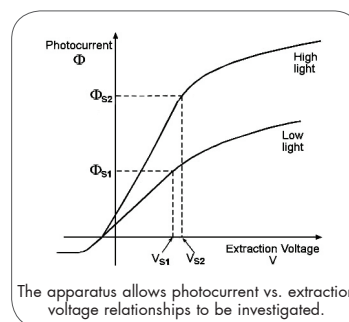
- Phototube:** Type GD-51 Mixed metal vacuum tube (Cs/Sb), rated voltage: 24V
Integral sensitivity (white light): 100 μ A/Lm
- Lamp:** Incandescent lamp, 12V/5W
- Control Unit:** Lamp supply: 185mA—665mA, display resolution: 1mA
Electrode voltage supply: -25.5V—+23.5V display resolution: 0.1V
Photocurrent amplifier ranges: 0—19.99 μ A x 0.01 μ A; 0—199.9 μ A x 0.1 μ A
Dimensions: 35cm x 26cm x 12cm
Weight: 4.5 kg
- Light-tight Box:** Slide range: 0.5 - 40.0cm, mm scale
Dimensions: 60.5cm x 12cm x 15cm
Weight: 3.8 kg



The control and measurement unit contains a highly stabilized lamp power supply adjusted by a multi-turn potentiometer.



The light-tight box contains a vacuum phototube mounted on a slide operated from outside the box to vary the illumination.



Item No.	Description
PEEA01	Photoelectric Effect Apparatus