

OPERATING INSTRUCTIONS

Electronic Module System Geiger Tube Supply No. 32385

1. Introduction

The Geiger Tube Supply is designed to be used with the 32382 Six-Decade Counter/Timer to power the 32394 Geiger Tube or other tubes and measure their plateau curves. You can also use it for other applications requiring high voltage and low currents, such as accelerating voltage in a Millikan oil drop experiment, or as a source of charge in electrostatic experiments.

2. Description

Specifications:

Output:	0-1000 volts DC\2mA
Meter Accuracy:	±5% full scale

3. Setup

Connect the Geiger Tube Supply as shown in Fig. 1. Maintain correct polarity by connecting the pin-type plug from the Geiger tube to the pin-type receptacle on the Geiger tube supply. Voltage to the Geiger tube is continuously variable from 0-1000 volts and is controlled by the potentiometer on the Geiger tube supply. Counts are sensed and displayed on the Six-Decade Counter/Timer via the Amplifier/Power Supply.

Fig. 1

4. Operation

To measure the plateau curve of a Geiger tube, set the Six-Decade Counter-Timer switches to the "APS" and "Level" positions and adjust the voltage on the Geiger Tube Supply to 1000 volts. Turn the gain adjust knob on the amplifier power supply to about 20. Place a gamma or beta source near the Geiger tube and adjust the amplifier's DC offset until the counter register counts continuously.

Reduce the tube supply voltage to about 300 volts. The curve is now generated by plotting counts per minute while increasing the tube supply voltage in 5-volt intervals.

The curve will first show a small increase in cpm with increasing voltage, then rise dramatically, followed by a leveling off.

For additional information on using the Geiger Tube Supply, please refer to 32195-02, the Student Lab Manual for the Cenco Electronic Module System.

5. Maintenance

The 32385 Geiger Tube Supply needs no special maintenance. If you should experience any difficulty with a Geiger tube supply, please contact Central Scientific Company, giving details of the problem. To ensure better service, please do not return any apparatus to Central Scientific Company until we have sent you authorization.

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