



Instructions

IPC ELECTRONICS LTD.

GM TUBE & HOLDER IPC-6200-R

IMPORTANT

Please read these instructions carefully
before using apparatus

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GM Tube & Holder IPC-6200-R

Introduction

The GM Tube & Holder has been designed to work directly with our Timer Scaler & Frequency Meter (IPC-3342-T) but can also be used with any other suitable Scaler unit.

The GM Tube contained within this stand-alone holder is the industry standard type: ZP1481, as recommended in the Cleapss document GL:138 (Choosing a Geiger Muller Tube). The ZP1481 has a large area detection window making it suitable for all practical demonstrations and investigations as well as having an efficiency level suitable for detecting alpha, beta and gamma radiation, it is also robust and has a long life.

The holder containing the GM Tube not only provides both protection and a choice of connections to the Tube but also the option to attach the holder to a retort stand using the supplied fixing rod. Also contained within the Holder is a high ohmic value (4M7) series resistor required by most Counter and Ratemeter (Scaler) units.

Radiation Source

The GM Tube & Holder can detect both alpha or beta particles and gamma or x-ray photons, therefore a range of radiation sources can be used.

Operation

Place the unit either on the bench or mount it onto a support stand (using the supplied fixing rod), then connect the TNC connector to the Scaler unit - first making sure the HT voltage supply is set to minimum. Now place the radiation source to be used close to the aperture of the GM Tube (eg. approx. 5 to 10mm from the protection grill cover) and then slowly increase the HT voltage supply until the Scaler unit starts to count. The GM Tube should start to detect the radiation source between 350VDC to 450VDC, for ease of setting the audio (beep) on the Scaler unit should be switched on. If required the protection grill covering the detection window can be removed should you want to detect low levels of contamination.

Testing the GM Counting System & Efficiency (using a Standard Source)

It is the responsibility of the school/college that periodic testing of the GM Counting System and the efficiency of the GM Tube are performed. Both these test procedures use a Standard Radiation Source, a type K-40 source is available from IPC (IPC-6225-R), please see our website www.ipcel.co.uk for details, where you will also find a full set of instructions on how to perform these tests.