

DPM-111-C2

Digital Picoammeter



- Measures current down to 1pA
- All solid state and IC design
- Very low offset current
- Built-in computer interface

Introduction

This is a very versatile multipurpose equipment for the measurement of low dc currents. It has 6 decade ranges with 100% over-ranging from 10⁻⁹A to 10⁻⁴A. For the ease, readings are directly obtained on a 3½ digit DPM. The instrument uses a well designed precision FET input electrometer operational amplifier AD549, which offers the lowest input bias currents (50fA with ±5V supplies) available in any standard operational amplifier. The excellent characteristics of AD549, ultra low bias current, low offset voltage, low drift and low noise have been fully utilized to obtain best results in the present picoammeter. The first operational amplifier AD549 is used in low level current to voltage configuration and the output has been directly read on a 3½ digit panel meter. The instrument is capable of accepting either polarity of the input current. Well-regulated power supplies are incorporated to use the instrument upto 10% changes in a.c. main's voltage.

Applications

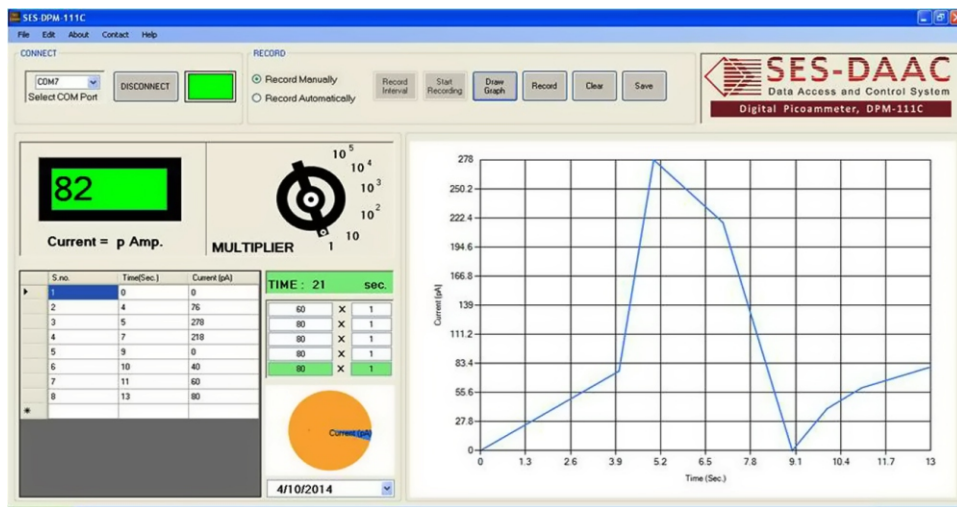
- Current from photo multiplier tubes, photometers etc.
- Leakage currents in solid state devices.
- FET gate and tube grid-currents.
- Current through very high resistance's in conjunction with a power supply. Potentials across semiconductors, piezoelectric system & pH/plon sensitive electrodes.
- Electrical conductivity of air.
- Very low current oxygen sensors.

Specifications

Multiplier	: X1, X10, X10 ² , X10 ³ , X10 ⁴ , X10 ⁵
Accuracy	: 0.2% for all ranges
Resolution	: 1pA, 10pA, 100pA, 1nA, 10nA, 100nA
Input Resistance	: 2.5KΩ, 0.25KΩ, 25Ω, 2.5Ω, 0.25Ω, 0.025Ω
Display	: 3½ digit 7 segment LED
Power Supply	: 220V ±10%, 50Hz
Input	: Through BNC connector
Interfacing	: USB
Software	: DACC and CAMM, both Window compatible

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Computer Interface, SES-DAAC (In DPM-111-C2 only)

The unit can be connected directly to a PC through an USB. SES-Data Access And Control is a built-in interface which gives user an option to store a value as displayed on the meter and tabulate it by the click of a button on the screen. Alternatively the data may be automatically entered into a table at user selectable interval. An 'END' button on the screen terminates the automatic tabulation.

The data stored in the table may then be displayed as graph on the screen and may also be stored in an excel file for further processing. The software supplied with the unit is menu driven and is simple to operate.

SES-CAMM Compatible (In DPM-111-C2 only)

This unit can also be connected to a PC through an interface module SES-CAMM to record current values. SES-CAMM is a computer aided module for connecting multiple subunits of experiments, such as Two Probe Setup, to same interface on a computer. This feature is particularly useful in making this model compatible with computerized versions of complete experiments from our company.

