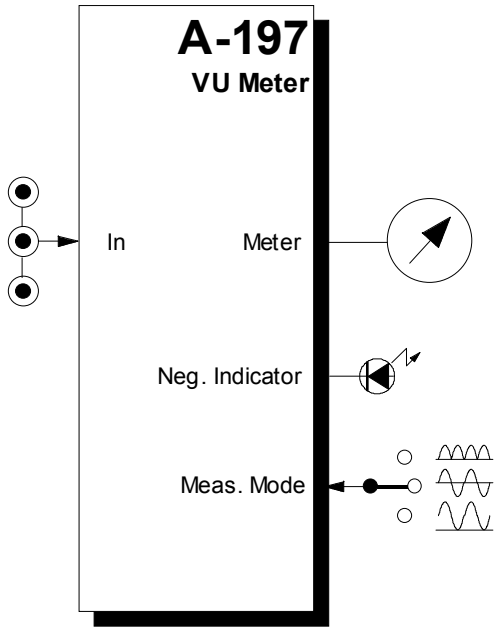


1. Introduction

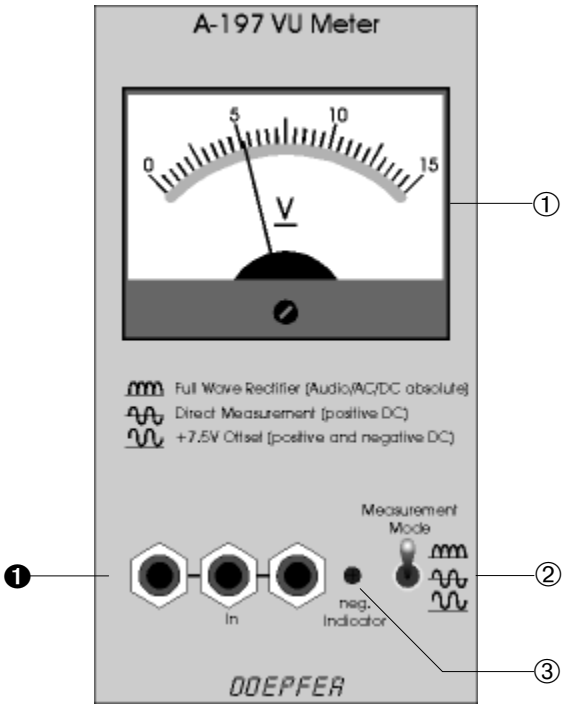
Module A-197 serves to **display DC or AC voltages** by means of an **illuminated moving coil meter** with mirror scale.

The **display range** is **0...+10V** (resp. -**5V...+5V** in the offset mode).

The module features **3 different measuring methods** that are selected by a toggle switch.

A **LED** is used as an indicator for **negative voltages**.

2. Overview



Controls:

① **Meter** : Moving coil meter

② **Meas. Mode** : Measurment mode switch

③ **LED** : Indicator for negative voltages at input ❶

Inputs / Outputs:

❶ **In** : Measuring voltage input (3-fold multiple)

3. Controls

① Meter

The illuminated moving coil meter with mirror scale is used as readout for the voltage applied to socket ❶.

② Measurement Mode

This switch is used to select the desired measurment mode:

- **Full wave rectifier**

  In this mode the incoming signal is **rectified** and **smoothed** with a low pass filter.

  This mode is normally used to display **audio signals** resp. **AC voltages**. But even DC voltages can be measured in this mode. The display shows however the absolute value (i.e. positive voltages remain unchanged, negative voltages - e.g. -3V - are converted into the corresponding positive voltages - e.g. +3V). To distinguish between positive and negative input signals LED ③ is available that lights up in case of a negative signal.

- **Direct mode**

  In this mode the incoming voltage is lead to the meter **without additional electronic modification**.

  This mode is intended to display **positive DC voltages**, e.g. ADSR (A-140/141/A142), MIDI-to-CV (A-190/191), positive analog or digital random voltages (A-149-1, A-149-2), foot controller (A-177) or slowly changing Gate/Clock signals.

- **Offset mode** (+5V Offset):

  In this mode **+5V are added** to incoming voltage before it reaches the meter. **Zero volt input** correspond to the **middle position of the display needle** (i.e. +5V read out).

  This mode can be used to **display positive and negative voltages**, e.g. a slowly swinging LFO (A-145/146/147), S&H (A-148), bipolar random voltages (A-118), joy stick (A-174), Theremin (A-178), light controlled CV source (A-179).

③ Neg. Indicator

The LED lights up if a **negative voltage** appears at the measurement input ❶.

4. Inputs / Outputs

❶ In

This socket is the measurement input of the module. It is available as a triple multiple so that the signal to be measured can be used elsewhere in the system simultaneously.