

## Application Note

Title: Frequency measurement with an APM-FREQ meter

Date: 9<sup>th</sup> March 2015

Revision: 1st

### 1. Introduction:

The APM-FREQ meter can measure Frequencies between 30Hz and 400Hz

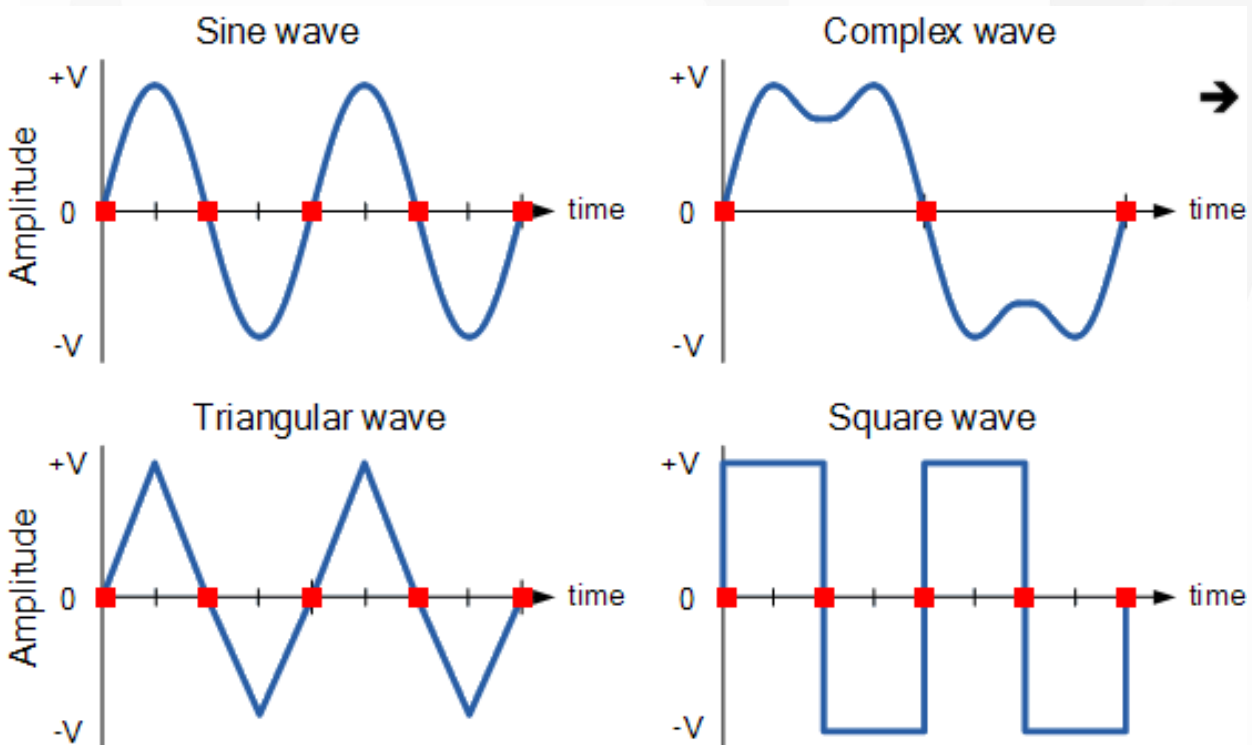
The APM-FREQ meter can detect frequency in two ways:

- 1) Zero Crossing Points
- 2) Upper and lower Threshold levels

The following sections discuss each configuration in more detail.

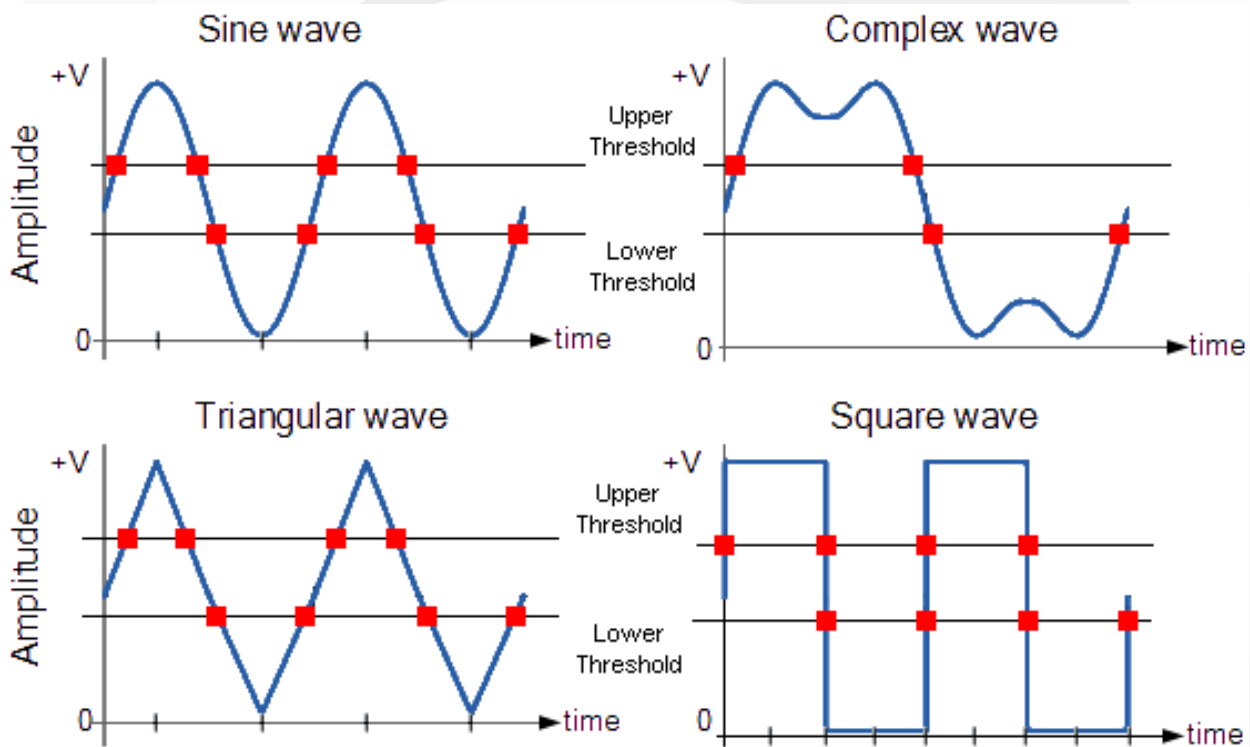
### 2. Setup

Using the free APM configurator software the APM-FREQ can be set to measure the period between zero crossing points as in the case of an AC waveform.

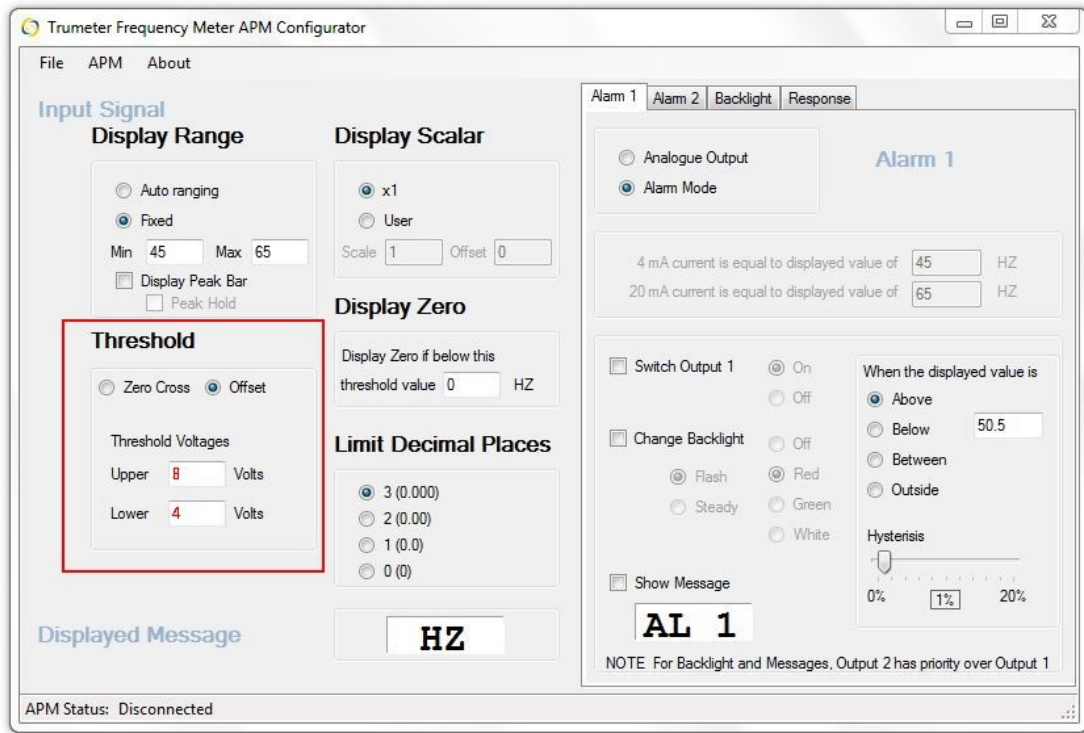


### Zero crossing Points

Or to measure the period between an upper and lower offset threshold as in the case of a DC waveform



The Threshold upper and lower voltages can be set in the software



The Frequency of the applied waveform is calculated as

$$\text{Frequency} = \frac{1}{\text{Period}}$$

This calculation is carried out over a 30mS sample period and an average is calculated. Therefore any noise or runt pulses will lead to inaccurate display

The input impedance of the APM-FREQ is approximately 1.5MΩ

### 3. Wiring

