# Application Note

Title: Frequency measurement with an APM-FREQ meter

Date: 23rd July 2019

Revision: 2nd

## 1. Introduction:

The APM-FREQ meter can measure Frequencies between 2Hz and 400Hz

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

1) Zero Crossing Points

2) Upper and lower Threshold levels

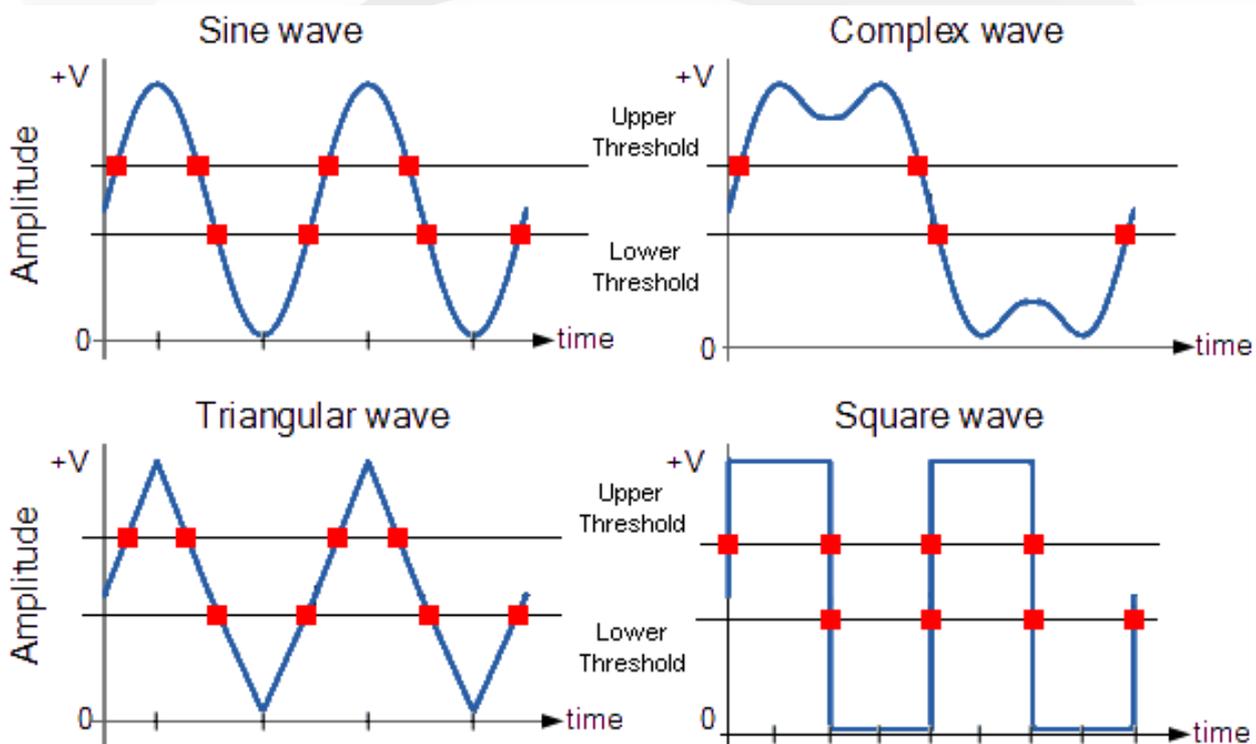The following sections discuss each configuration in more detail.

## 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.
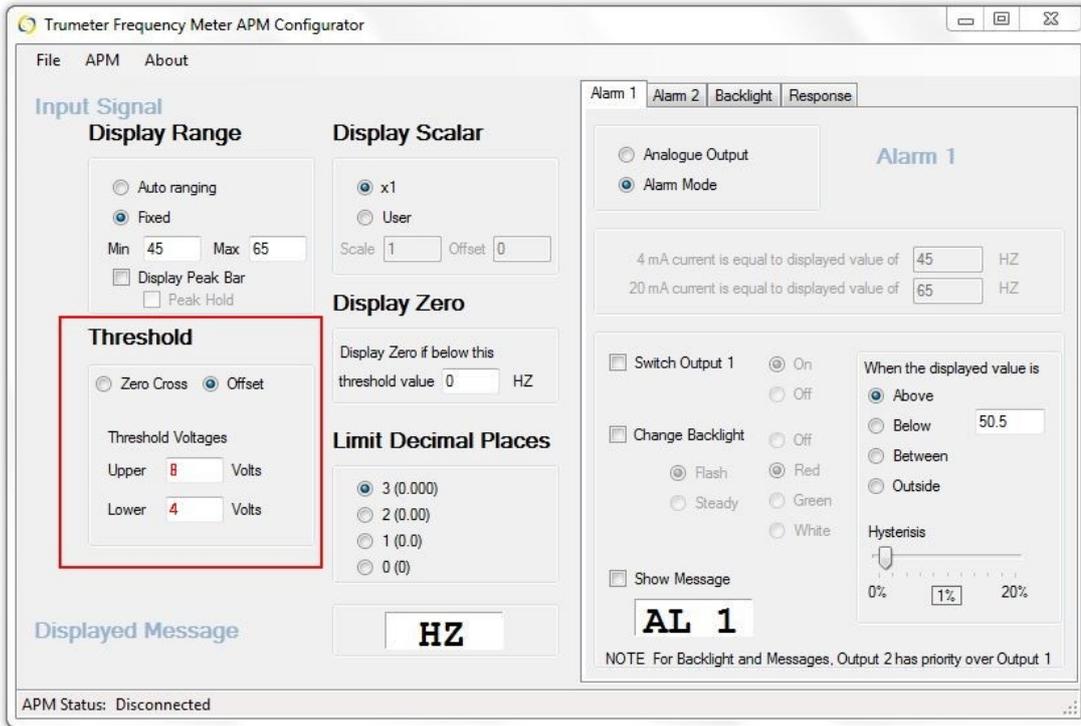
**innovation by design**
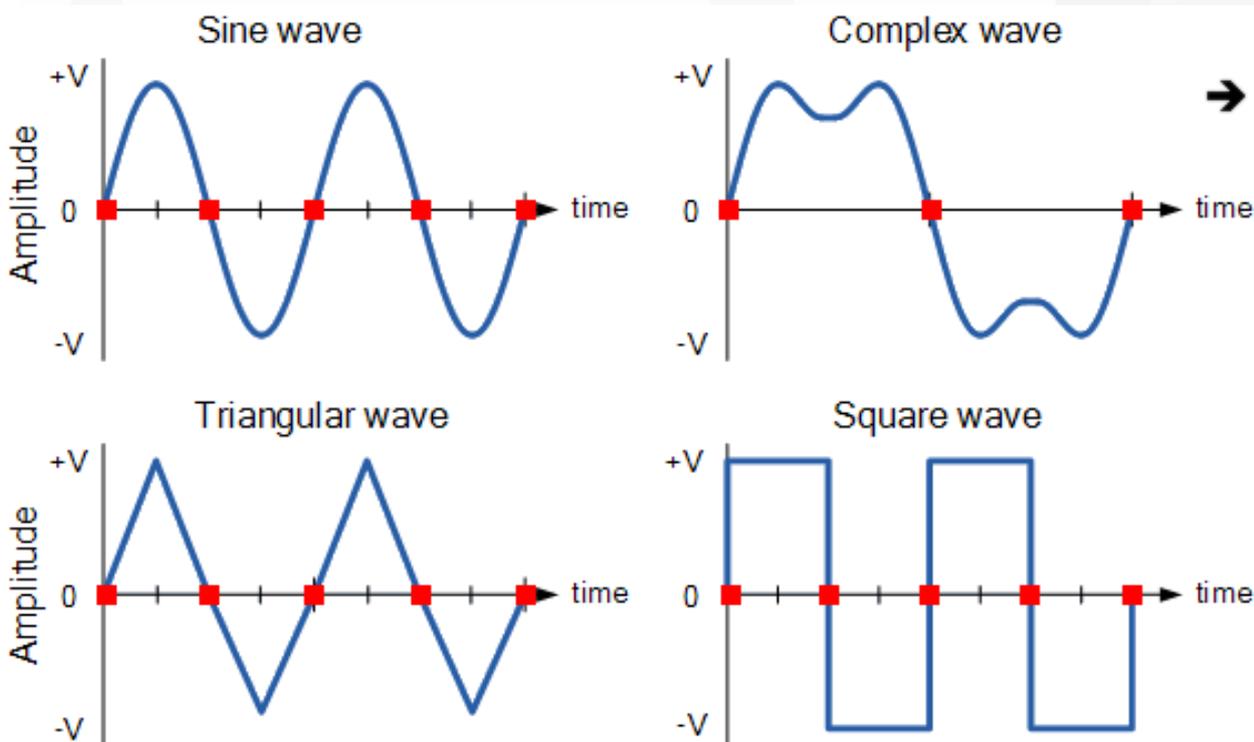
Or to measure the period between an upper and lower offset threshold as in the case of a DC waveform

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

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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