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

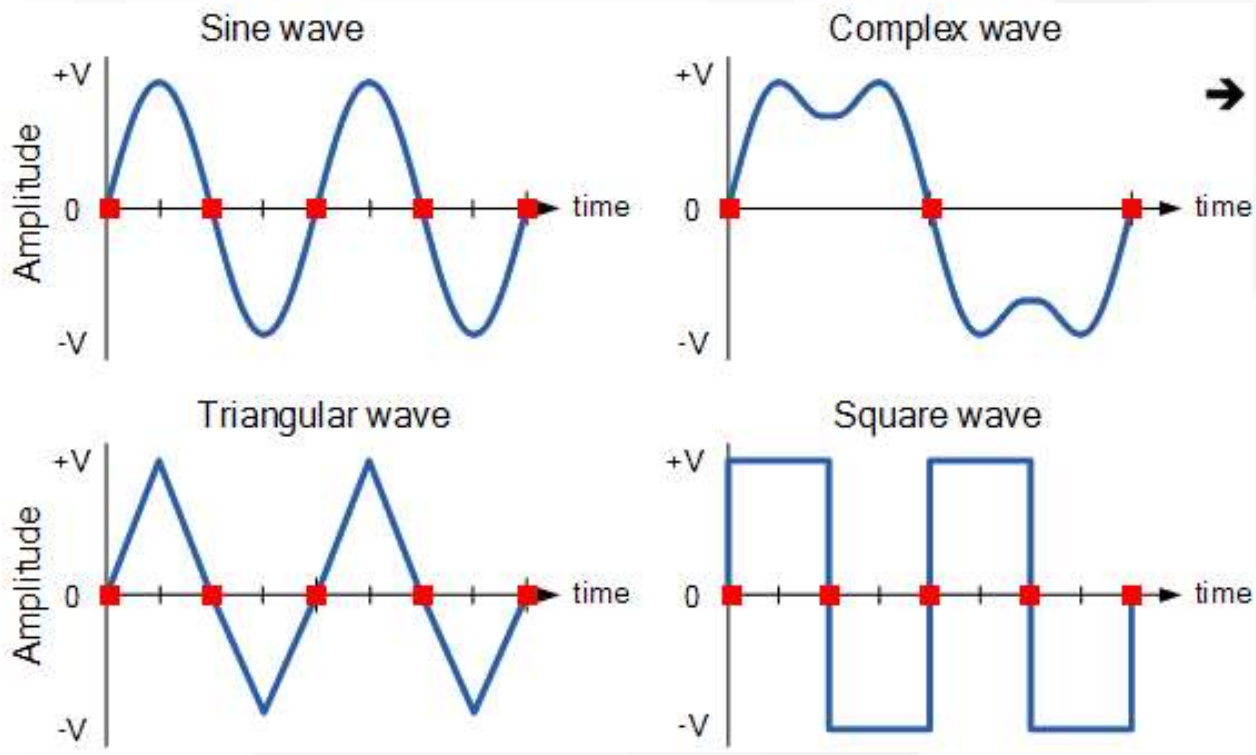
The APM-FREQ meter can detects frequency in two ways:

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.



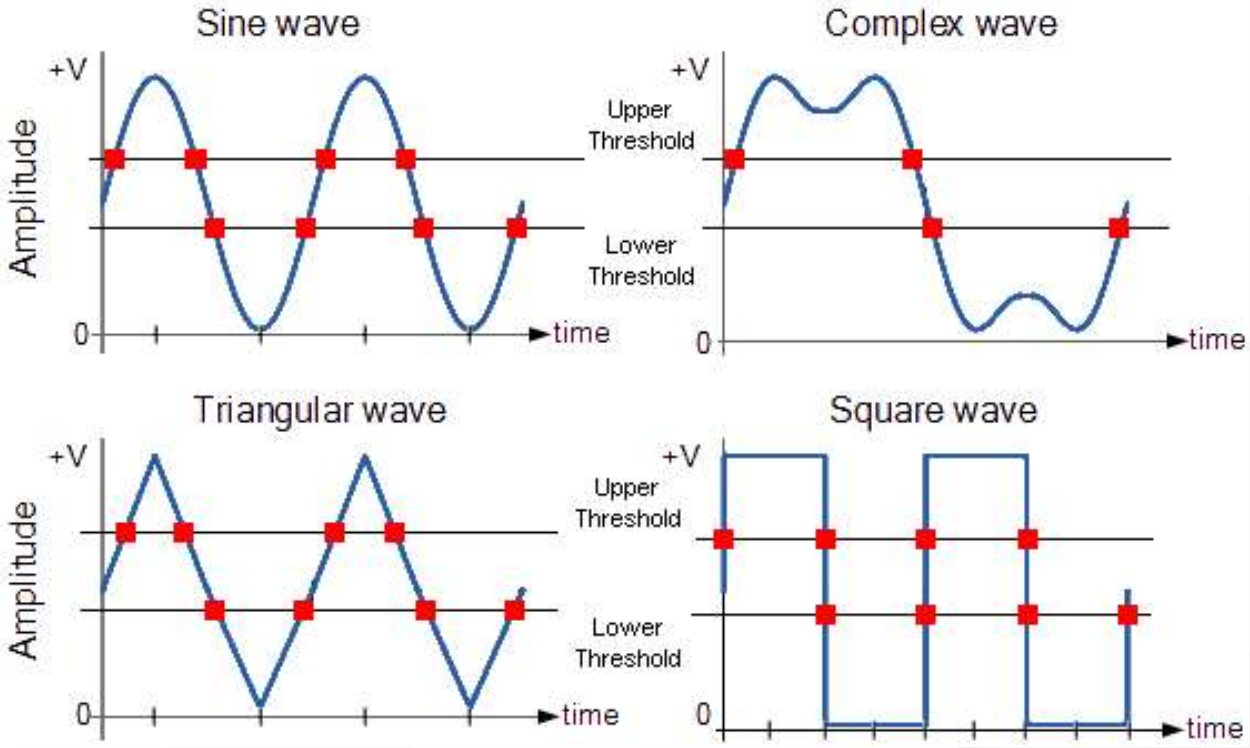
Trumeter (Europe)
Pilot Mill
Alfred Street
Bury,
BL9 9EF
Tel: +44 161 674 0960

Trumeter (The Americas)
702 S. Military Trail
Deerfield Beach, Florida
FL 33442,
USA
Tel: +1 954 725 6699

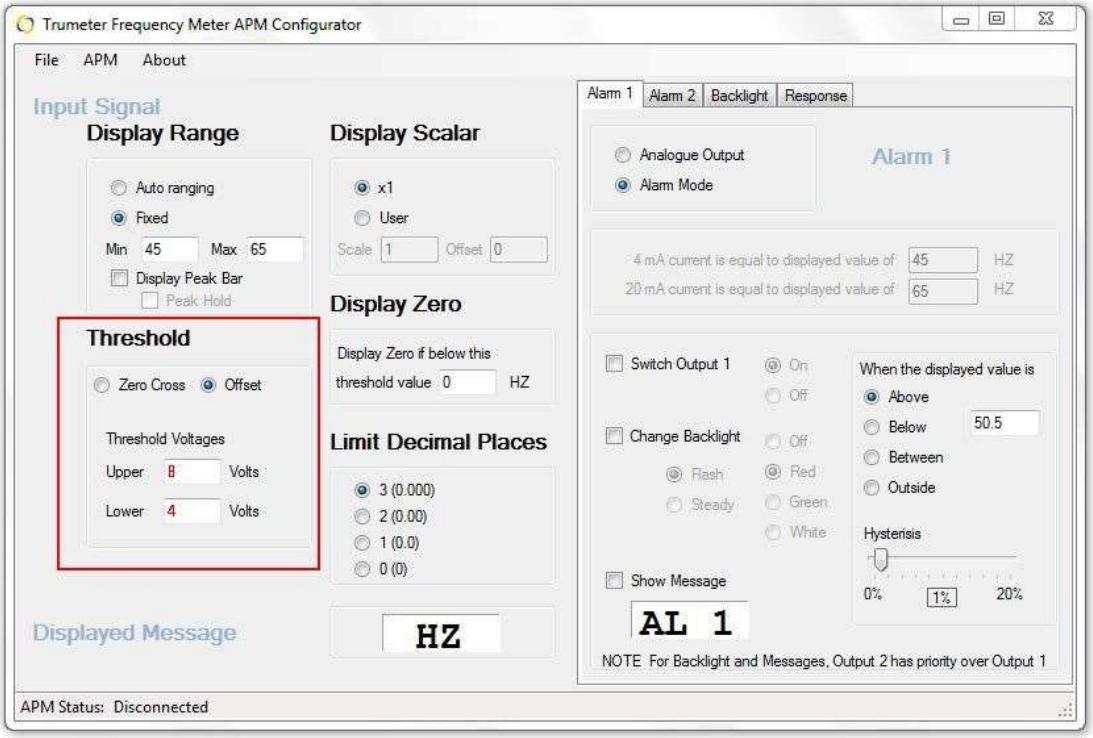
Innovative Design Technologies Sdn. Bhd
Lot 5881, Lorong Iks Bukit Minyak 1
Taman Perindustrian Iks, 14000 Bukit Tengah
Penang, Malaysia
Web: www.idtworld.com
Tel: + 604 5015700

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