

Application Note

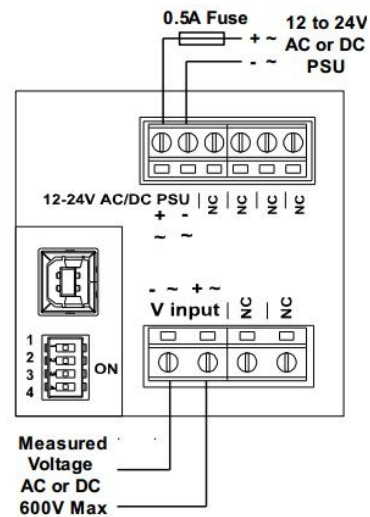
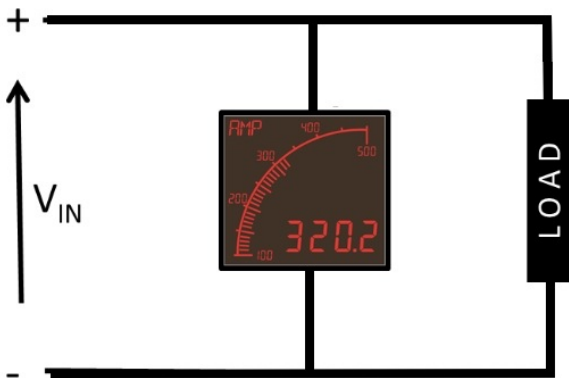
Title: Voltage measuring with an APM-VOLT meter
Date: 22nd April 2016
Revision: 2nd

1. Introduction:

The APM-VOLT meter can measure both AC and DC voltages. The APM-VOLT meter performs automatic AC/DC detection. All AC Voltages are automatically converted to true RMS. The following sections discuss each configuration in more detail.

2. AC & DC Measurement

The APM-VOLT meter is connected in parallel with the voltage to be measured as shown below.



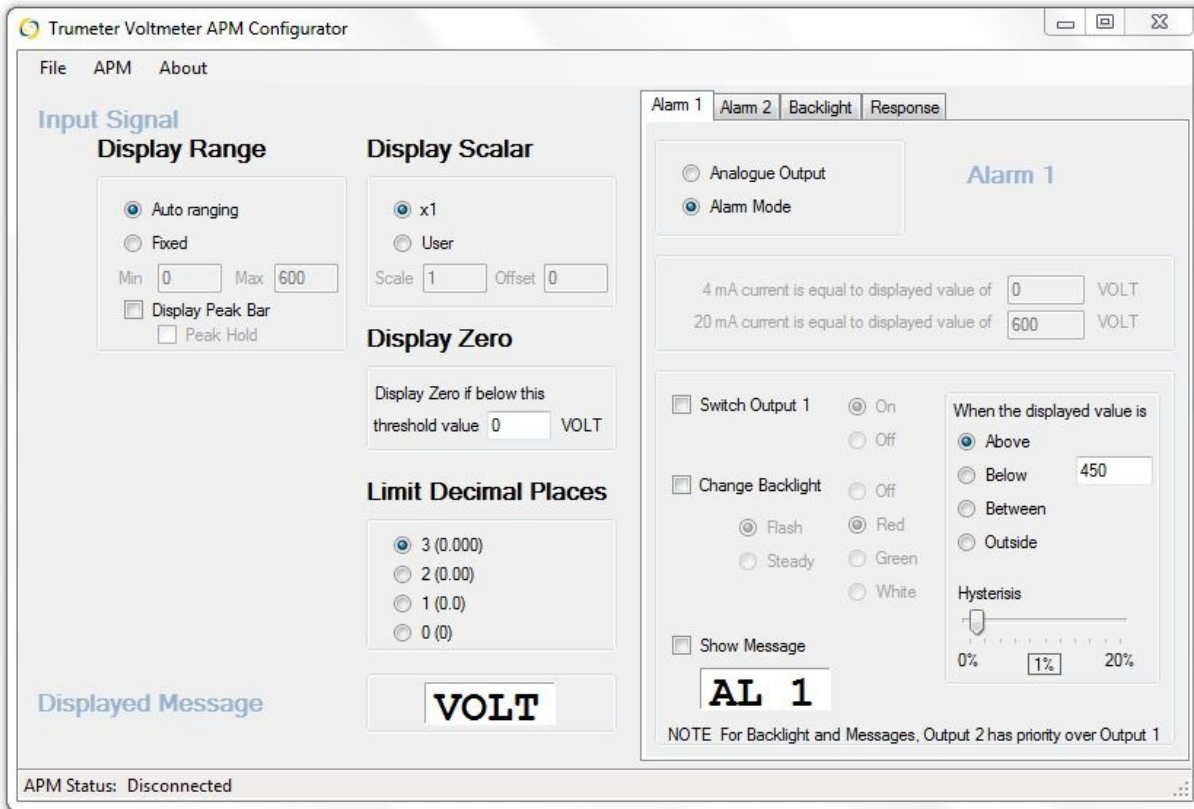
APM-VOLT connections

NOTE: The APM-VOLT meter is rated for a maximum input voltage of 600V AC/DC

Note. Exceeding the rated voltage will cause damage to the APM

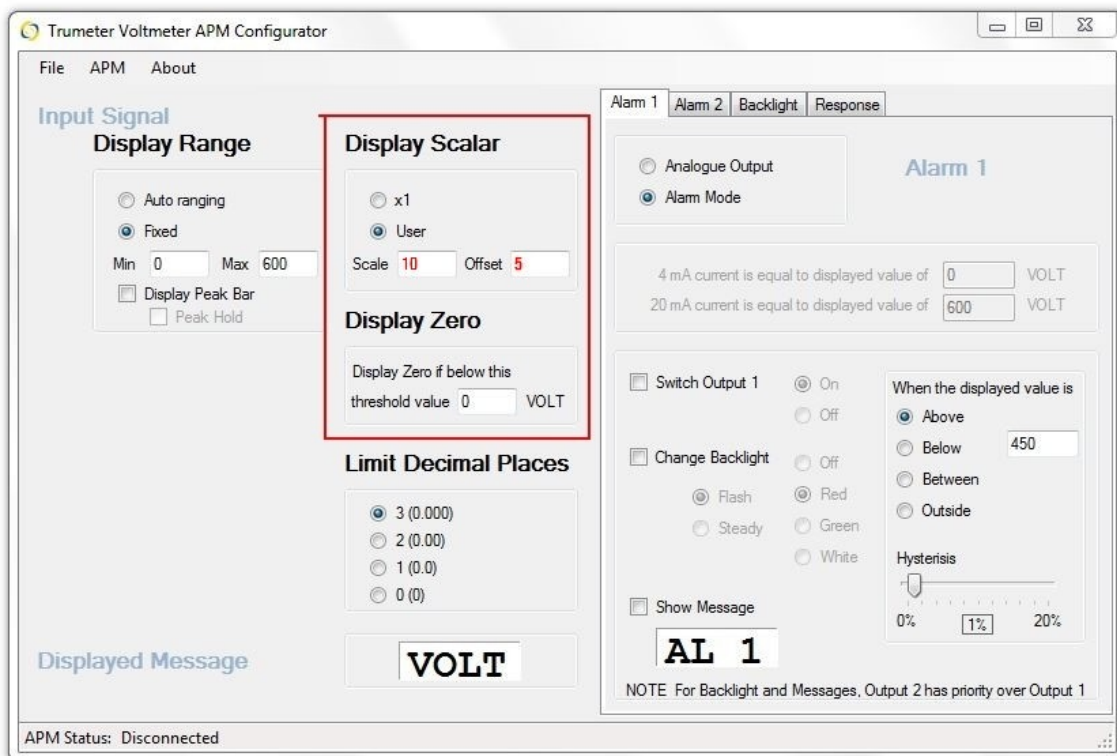
Make sure that the switches on the back of the APM-VOLT meter are all switched off (i.e. switched to the left)

The APM-VOLT can be set to auto range or to a user defined scale with the free APM Configurator software. You can also set the advanced features such as the backlight colour and the output alarms in this way also



3. Setup using the scalar function

The APM-VOLT has the ability to both scale the display and also to apply a voltage offset to the measured voltage.



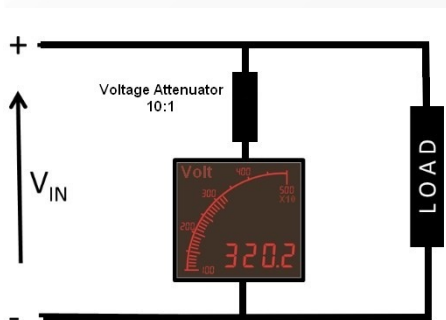
Example

In the setup above the Scale is multiplied by ten x10 and the offset is set at five 5V

Therefore if we applied 10v the display would read $100V - 5V = \text{Reading } 95V$

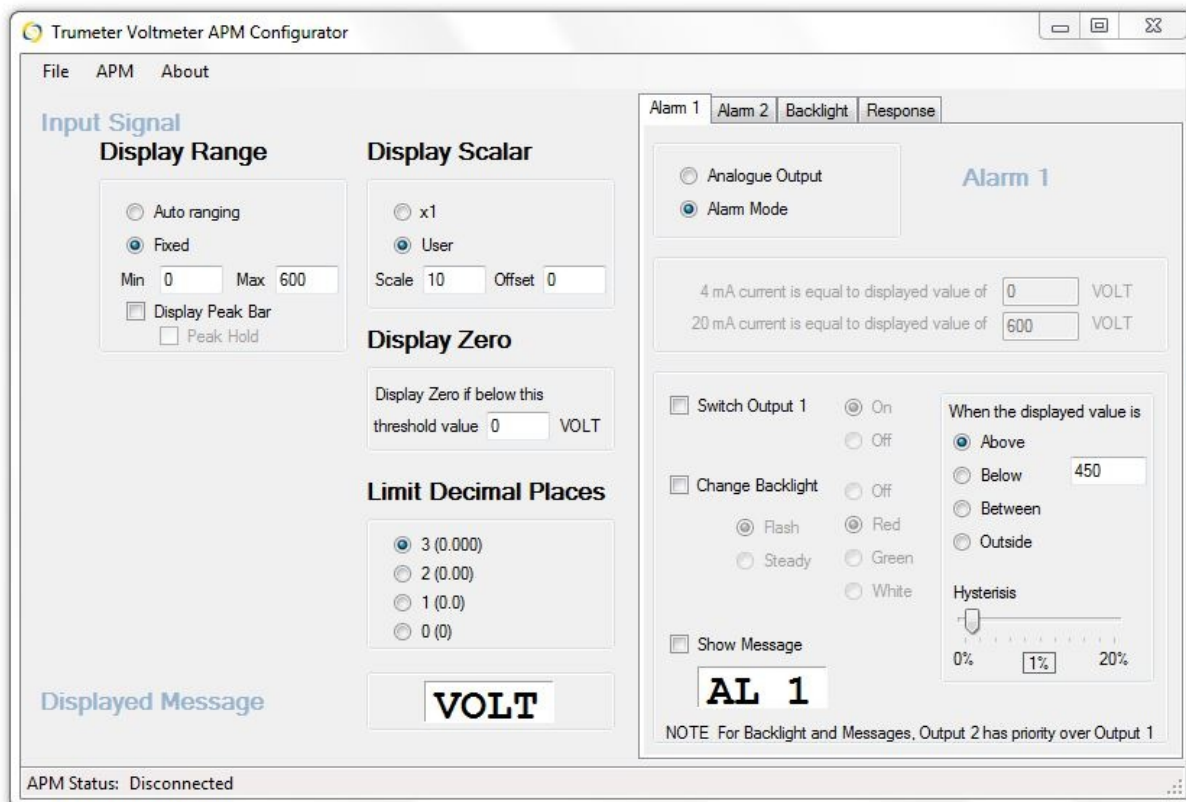
4. Using a voltage divider to read voltages greater than 600V

Wiring



Software Setup

Set Scale = 10 Offset = 0



Trumeter Voltmeter APM Configurator

File APM About

Input Signal

Display Range

Auto ranging

Fixed

Min 0 Max 600

Display Peak Bar

Peak Hold

Display Scalar

x1

User

Scale 10 Offset 0

Display Zero

Display Zero if below this threshold value 0 VOLT

Limit Decimal Places

3 (0.000)

2 (0.00)

1 (0.0)

0 (0)

Displayed Message

VOLT

Alarm 1

Analogue Output

Alarm Mode

4 mA current is equal to displayed value of 0 VOLT

20 mA current is equal to displayed value of 600 VOLT

Switch Output 1 On Off

Change Backlight Off

Flash Red Green White

Steady

Show Message

AL 1

NOTE For Backlight and Messages, Output 2 has priority over Output 1

When the displayed value is

Above

Below 450

Between

Outside

Hysteresis

0% 1% 20%

APM Status: Disconnected