

# 1 MHz Voltage to Frequency Converter

## Technical Datasheet

The Quantum Detectors V2F is a popular, high performance, highly linear, low noise, voltage to frequency converter. The two channel V2F is available in either an industry standard NIM format, or stand alone with mains power supply.

The unit has 3 user changeable input ranges and switchable polarity - also specifiable as factory set.



Features	
<b>V2f Output Frequency</b>	0 → 1MHz TTL
<b>Input Voltage and Impedance</b>	0 → 10V or 0 → -10V 20KΩ 0 → 5V or 0 → -5V 10KΩ 0 → 2.5V or 0 → -2.5V 5KΩ
<b>Linearity Error</b>	1.5 PPM
<b>Noise</b>	±1 count at 200KHz over 100µs frames. 2PPM
<b>Calibration Error</b>	±0.01% MAX
<b>Temperature Drift</b>	Gain ±30PPM/°c MAX Offset ±25µV/°c MAX
<b>Response Time</b>	One period of new output frequency +0.5µs
<b>Crosstalk</b>	A ↔ B None. Independent isolated circuits
<b>Independent Channels</b>	2 in NIM and Stand Alone
<b>Format</b>	Single width NIM unit, 890g or stand alone mains powered unit

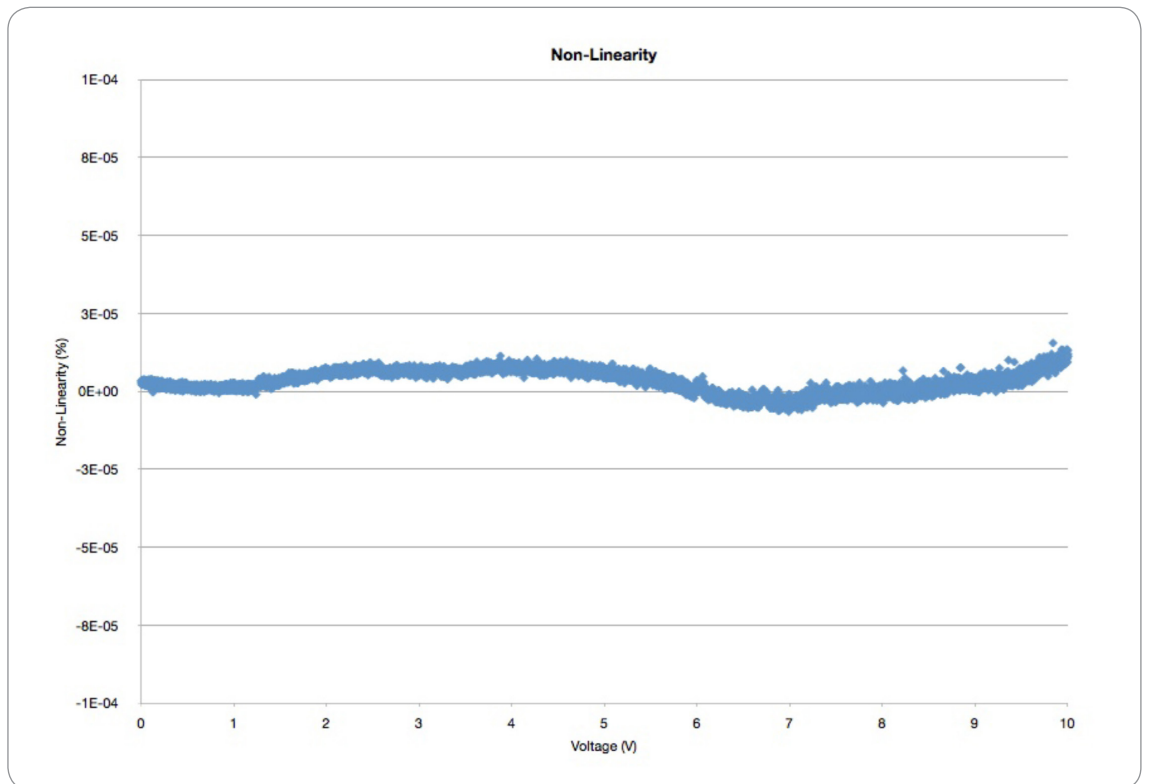
# V2F

## Noise and Linearity

This voltage to frequency converter has high linearity and low noise. The noise specifications were measured using a Keithley Amplifier to provide a low noise input voltage at 2V. The output TTL pulses were measured using a Quantum Detectors TFG2 to automatically collect 10,000 data points at 100µs, 1ms and 10ms time frames to seek out noise at different frequencies. Over all these regions max noise was ±1 count over all time periods.

The linearity measurements were made by colleagues at a UK lab. Please get in touch for more details.

Both of these measures compare favourably with our competitors - find out what their measurements are! Raw data is available to customers on request.



## Power Supplies

When ordering stand alone units, please specify the required plug type. If the type is not specified, we will make an assumption based on the delivery address. Plugs available as standard are below: Australian, Japan / US, UK and European. C8 connectors, on the right, are available on special request.

