



3MHz function generator

- ▶ *0.003Hz to 3MHz frequency range*
- ▶ *Very high waveform quality at all frequencies & levels*
- ▶ *2mV to 20V pk-pk from 50 Ω or 600 Ω*
- ▶ *Auxiliary TTL/CMOS output*
- ▶ *Variable symmetry with constant frequency*
- ▶ *Variable DC offset with zero detent*
- ▶ *1000:1 frequency change by vernier or sweep voltage*

TG310 - 3MHz function generator

A basic generator of high performance

The TG310 is a basic 3MHz function generator which offers very high waveform quality at all frequencies and levels. Frequency is set using a calibrated vernier knob.

The feature set includes variable symmetry and variable dc offset with centre detent.

Output impedances of 50Ω and 600Ω are supported via separate output sockets.

Main Features

- ▶ 0.003Hz to 3MHz frequency range
- ▶ High waveform quality at all frequencies & levels
- ▶ 20mV to 20V pk-pk from 50Ω or 600Ω
- ▶ Auxiliary TTL/CMOS output
- ▶ Variable symmetry with constant frequency
- ▶ Variable DC offset with zero detent
- ▶ 1000:1 frequency change by vernier or sweep voltage

Part of an extensive range

TTi offers a wide choice of function generators both analogue and digital, from this basic 3MHz model up to a highly sophisticated 50MHz unit.

Users requiring an analogue function generator with digital readout and a wider feature set should request information on the TG300 series of 3MHz generators.

Technical Specifications

FREQUENCY

Frequency Range:	0.003Hz to 3MHz in 7 overlapping decade ranges with fine adjustment by a vernier.
Vernier Range:	1000:1 on each range.
Vernier Accuracy:	Typically ±5% of full scale.

OPERATING MODES

Specifications apply for the top decade of each frequency range and maximum output into 50Ω termination.

SINE

Distortion:	<0.5% on 3, 30 and 300Hz ranges; <1% on 3k, 30k and 300k ranges; all harmonics >25dB below fundamental on 3M range.
Amplitude Flatness:	±0.2dB to 200kHz; ±2dB to 3MHz.

TRIANGLE

Linearity:	Better than 99% to 200kHz
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SQUARE WAVE

Rise/Fall Times:	<100ns
Mark - Space Ratio:	1:1 ± 1% to 100kHz

DC

Range:	±10V unterminated
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SYMMETRY

Symmetry Range:	Variable typically 1:9 to 9:1 (on top decade of each range), frequency divided by 10.
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OUTPUTS

MAIN - 50 Ohm

Amplitude	2mV to 20V peak-peak open circuit (1mV to 10V peak-peak into 50Ω) in four switch selectable ranges with 20dB vernier control within each range.
Attenuator Ranges:	0dB, -20dB, -40dB, -60dB
DC Offset Range:	±10V from 50Ω. DC offset plus signal peak limited to ±10V (±5V into 50Ω). DC offset plus waveform attenuated proportionally by the attenuator.

MAIN - 600 Ohm

Alternative output socket offering the same facilities as the 50Ω socket.

AUX OUT

0 to 5V TTL/CMOS logic levels capable of driving 2 standard TTL loads. Frequency, symmetry and phase as main outputs

SWEEP (EXTERNAL)

Input Impedance:	10kΩ
Input Sensitivity:	0 to 3V for 1000:1 sweep
Max. Input Voltage:	±10V
Sweep Linearity:	Better than 1%
Max. Slew Rate:	0.1V/us

GENERAL

CASING

Moulded ABS case with tilt stand.

POWER REQUIREMENTS

Input Voltage:	220 to 240 volts AC nominal 50/60Hz or 110 to 120 volts AC nominal 50/60Hz by rear panel adjustment. Installation category II.
Power Consumption:	25VA max.

TEMPERATURE & ENVIRONMENTAL

Operating Temp Range:	+5°C to +40°C, 20% to 80% RH.
Storage Temp. Range:	-10°C to +65°C
Environmental:	Indoor use at altitudes up to 2000m. Pollution degree 2.

SIZE

260(W) x 88(H) x 235(D)mm (10.2 x 3.4 x 9.2"), excluding tilt stand and feet.

WEIGHT

1.9kg (4.2lb)

SAFETY

Complies with EN61010-1.

EMC

Complies with EN61326.

Thurlby Thandar Instruments Ltd. operates a policy of continuous development and reserves the right to alter specifications without prior notice.

Designed and built in Europe by:



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Product Summary

Laboratory Power Supplies

Bench and system power supplies from 30 watts up to 1200 watts using linear, mixed-mode and PowerFlex regulation technologies.



Waveform Generators

Analog and digital (DDS) function generators, true arbitrary generators, arbitrary/function generators and pulse generators.



Precision Measurement Instruments

Benchtop DMMs, frequency counters, component measurement instruments (LCR), electronic dc loads, current probes.



RF and EMC Test Equipment

Spectrum analyzers, signal generators, frequency counters, power meters, emc measurement instruments.



Company name and product brands

Thurlby Thandar Instruments Ltd. (TTi) is one of Europe's leading manufacturers of test and measurement instruments.

Products have been sold under two brand names: TTi and Aim.



In the future, however, the full product range will be branded Aim-TTi.



This changeover will be gradual and many products will continue to carry the TTi or Aim brands for some time to come.

Web Addresses (URLs)

The preferred URL for obtaining information concerning Aim-TTi products is:

www.aimtti.com (international customers)

Customers in the UK should use the URL:
www.aimtti.co.uk

Customers in the USA should use the URL:
www.aimtti.us

Note that previous URLs such as www.tti-test.com will continue to operate for the time being.

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