

63 W power function generator from TOELLNER®

TOE 7741



Power function generator with 63 W output power and integral frequency counter TOE 7741

- ❖ Frequency range
1 mHz to 100 kHz
- ❖ High power output > 63 W into
8 Ohm
- ❖ Max. output amplitude > 45 V_{pp}
- ❖ Output with feedback voltage
protection
- ❖ Frequency counter up to
30 MHz

The outstanding feature of the TOE 7741 power function generator is its high power output of over 63 W (with rectangular waveforms). This power is achieved at an output amplitude of 45 V_{pp} into 8 Ohm load. Since the output amplifier has an internal resistance of approx. 0 Ohm and is shielded by feedback voltage protection, any external voltages of up to 120 V will not destroy its output stage. Furthermore all front-panel inputs and outputs are no-load and short-circuit proof. The frequency settings are made using a decade switch, the frequency dial and the frequency offset potentiometer. The latter allows frequency settings with a reproducibility of < 0.1 %.

The outstanding feature of this instrument is its frequency counter that can measure both internal and external signal frequencies. The counter has an LED display.

Besides the basic sine, triangle and square functions, the instrument generates positive and negative pulses and bipolar DC voltage, and can also be used as a broadband power amplifier for the range DC up to 100 kHz.

Specifications

Functions and operating modes

Functions: sine, triangle, square, positive and negative pulses, broadband power amplifier, DC, variable symmetry

Operating modes: free-running oscillator, external sweep-frequency control, amplifier mode, frequency counter

Frequency characteristics

Frequency range: 1 mHz to 100 kHz divided into 6 decadic subranges

Frequency offset: ± 5 %

Frequency error: ± 2 digits, 2 % of f.s.v. when using the scale.

Drift: $1 \times 10^{-3}/K$, 5×10^{-3} in 8 hours, in each case following 30 min warm-up time

Function output

Output amplitude: V_{pp} = 45 mV to 45 V, or 22.5 mV to 22.5 V in pulse mode

Output impedance: approx. 0 Ohm. The output is no-load and short-circuit proof

Feedback voltage protection: < 120 V

DC offset: 0 to ± 15 V

Output attenuator: 30 dB continuously adjustable plus 20 or 30 dB steps
Frequency response (sine, triangle): 0.5 dB to 100 kHz

Function specification at max. output voltage into 8 Ohm load

Sine: distortion factor: < 0.5 % to 50 kHz, < 1 % to 100 kHz

Triangle: linearity error < 1 % up to 100 kHz, symmetry error < 1 % up to 100 kHz

Square: transition time < 0.8 µs, overshoots > 5 %

Pulse: see square

Symmetry variation: 10 % to 90 %, f_{max}: 10 kHz

Amplifier: Approx. 20 dB gain, DC to approx. 100 kHz, distortion factor < 0.2 % up to 100 kHz, input resistance = 10 kOhm

Other signal inputs and outputs

Synchronizing signal output:

TTL-compatible, source impedance: 50 Ohm

VCO modulation input:

approx. 5 V for a frequency variation ratio of 1000 : 1, R_i = 10 kOhm

OCV output:

0 to 5 V output voltage for a frequency variation ratio of 1:1000

EXT IN: amplifier input, max. input voltage 15 V_{rms}, R_i = 10 kOhm

Frequency counter mode

Frequency range: < 1 Hz to 30 MHz

Resolution: 4 or 5 digits with autoranging

Accuracy: ± 2 digits

Sensitivity: 150 mV_{rms} < 10 MHz
250 mV_{rms} > 10 MHz

Input impedance: 1 MOhm || 120 pF

Input protection: up to 15 V_{rms}

General data

Mains voltage: 115/230 V ± 10 %, 48 Hz to 60 Hz

Power consumption: 140 VA

Operating temperature: 0 to 40 °C

Dimensions:

(WxHxD) 265 x 147 x 480 mm

Weight: Approx. 7 kg

Housing: Aluminium

Options

19" adapter, 3HU	TOE 9501
19" slide-in module, 4HU	TOE 9503
Carrying handle	TOE 9008