

# 2 MHz function generator from TOELLNER®

## TOE 7401



- ❖ Frequency range 0.2 Hz to 2 MHz
- ❖ External sweep frequency control up to 100:1
- ❖ 3 signal shapes
- ❖ 20 V output voltage
- ❖ 3 outputs: HI, LO, TTL

The TOE 7401 function generator is a universal, general-purpose signal source at affordable cost. Its design concept makes it equally suitable for use in education, servicing, test departments and laboratories.

All inputs and outputs are on the front panel and are no-load and short-circuit proof. The generator produces AC voltages with sine, triangle and square signal shapes over a frequency range from 0.2 Hz to 2 MHz. A TTL-compatible output is provided. The function generator can be controlled by an external sweep-frequency control signal fed into the VCO input.

External voltage protection can be provided as an option to protect the output amplifier against dangerous feedback.

### Specifications

#### Functions and operating modes

**Functions:** Sine, triangle, square

**Operating modes:** Free-running oscillator, external sweep-frequency control

#### Frequency characteristics

**Frequency range:** 0.2 Hz to 2 MHz in 6 decadic subranges

**Frequency offset:**  $\pm 5\%$

**Frequency error:**  
2 % of full-scale value,  
5 % of full-scale value  
in the range  $\times 1\text{ M}$

**Drift:** 1  $\times 10^{-3}/\text{K}$  up to 200 kHz,  
5  $\times 10^{-3}/\text{K}$  up to 2 MHz,  
5  $\times 10^{-3}$  in 8 hours, in each case  
following 30 min warm-up time

#### Function output

**Output amplitude:**  $V_{pp} = 7\text{ mV}$  to 20 V

**Output impedance:** 50 Ohm  
The output is no-load and short-circuit proof.

### Feedback voltage protection

Up to  $\leq 120\text{ V}$  (option)

**DC offset:** 0 to  $\pm 10\text{ V}$

**Output attenuator:** 40 dB continuously adjustable plus 30 dB steps; via LO output (-30 dB)

**Frequency response (sine, triangle):** 0.8 dB up to 2 MHz

**Function specification at max. output voltage and 50 Ohm load.**

#### Sine:

Distortion factor:  $< 0.5\%$  up to 50 kHz  
 $< 5\%$  up to 2 MHz

#### Triangle:

Linearity error  $< 1\%$  up to 100 kHz  
Symmetry error  $< 1\%$  up to 100 kHz

#### Square:

Transition time  $< 50\text{ ns}$   
Overshoots  $< 5\%$

#### Other signal inputs and outputs

##### Synchronizing signal output:

TTL-compatible

**Source impedance:** 50 Ohm, 5 fan-out  
VCO modulation input: approx. 5 V for a frequency variation ratio of 100:1

### General data:

**Mains voltage:** 115/230 V  $\pm 10\%$ ,  
48 to 60 Hz

**Power consumption:** 20 VA

**Operating temperature:** 0 to 45 °C

#### Dimensions:

(WxHxD) 216 x 88.5 x 272 mm

**Weight:** approx. 2.8 kg

**Housing:** aluminium

#### Options

Feedback voltage protection	TOE 7400/101
19" adapter, 2HU	TOE 9507
19" lock link kit 272, 2HU	TOE 9509
Carrying handle	TOE 9008