

FUNCTION GENERATOR UTG-9010

The **UTG-9010** is a function generator, a device used to generate various types of electrical waveforms over a wide range of frequencies. These waveforms are typically used in testing, development, and troubleshooting electronic equipment. Below is an overview of the UTG-9010 function generator and its key features:



Key Features of the UTG-9010 Function Generator

1. **Waveform Types:**
 - Sine wave
 - Square wave
 - Triangle wave
 - Sawtooth wave
 - Pulse wave
 - Arbitrary waveforms (if supported)
2. **Frequency Range:**
 - Typically covers a range from a few Hz up to several MHz (exact range depends on the model specifications).
3. **Amplitude Control:**
 - Adjustable output amplitude, often up to 20 Vpp (volts peak-to-peak).
4. **Output Impedance:**
 - Usually 50 ohms, which is standard for most function generators.
5. **Frequency Stability:**
 - High precision with low distortion for accurate signal generation.
6. **Modulation Capabilities:**
 - May include AM (Amplitude Modulation), FM (Frequency Modulation), and PWM (Pulse Width Modulation).
7. **Display:**
 - LCD or LED display for showing frequency, waveform type, and other parameters.
8. **Sweep Function:**



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- Ability to sweep frequencies automatically over a specified range.
 - 9. **TTL/CMOS Output:**
 - Digital output for synchronization with other digital equipment.
 - 10. **Protection Features:**
 - Short-circuit protection and overload protection to prevent damage to the device.
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Applications of the UTG-9010

- **Testing and Calibration:** Used to test and calibrate electronic devices and circuits.
 - **Education:** Commonly used in laboratories for teaching and learning purposes.
 - **Research and Development:** Helps in designing and prototyping new electronic systems.
 - **Troubleshooting:** Assists in diagnosing issues in electronic circuits.
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How to Use the UTG-9010

1. **Power On:** Connect the device to a power source and turn it on.
 2. **Select Waveform:** Choose the desired waveform (sine, square, triangle, etc.).
 3. **Set Frequency:** Adjust the frequency using the frequency control knob or keypad.
 4. **Set Amplitude:** Adjust the output amplitude to the desired level.
 5. **Connect Output:** Connect the output terminals to the device under test using appropriate cables.
 6. **Modulate (if needed):** Apply modulation (AM, FM, etc.) if required for your application.
 7. **Monitor:** Use an oscilloscope to monitor the output signal if necessary.
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Specifications (Example)

- **Frequency Range:** 0.1 Hz to 10 MHz



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- **Output Amplitude:** 0 to 20 Vpp
- **Output Impedance:** 50 ohms
- **Waveforms:** Sine, Square, Triangle, Pulse, Sawtooth
- **Display:** LCD
- **Power Supply:** 110/220 V AC