

DGE2000 Series Dual-Channel Arbitrary Waveform Generator

Technical Specifications

All technical specifications are guaranteed when the following conditions are met, unless otherwise stated.

- The signal generator must be operated continuously for more than 30 minutes at the specified operating temperature (20°C to 30°C) to meet these specifications;
- The signal generator is in the calibration interval and has performed a self-calibration.

In addition to the specifications marked with the word "Typical", the specifications used are guaranteed.

| Model | DGE2035 | DGE2070 |
|---|--|--|
| Bandwidth | 35 MHz | 70 MHz |
| Sample Rate | 125M Sa/s | 300M Sa/s |
| Vertical Resolution | 14 bits | |
| Channel number | 2 | |
| Waveform | | |
| Standard Waveforms | Sine wave, square wave, ramp wave, pulse wave, noise | |
| Arbitrary Waveforms | Sinc, exponential rise, exponential decline, electrocardiogram, Gaussian, semi-positive, Lorentz, dual audio, DC voltage totaling more than 160 kinds | |
| Frequency Feature (Frequency resolution to 1 μ Hz) | | |
| Sine wave | 1 μ Hz ~ 35MHz | 1 μ Hz ~ 70MHz |
| Square wave | 1 μ Hz ~ 15MHz | 1 μ Hz ~ 20MHz |
| Ramp wave | 1 μ Hz ~ 1MHz | 1 μ Hz ~ 2MHz |
| Pulse wave | 1 μ Hz ~ 15MHz | 1 μ Hz ~ 20MHz |
| Noise wave (-3 dB) | 20 MHz BW (Gaussian white noise) | |
| Arbitrary wave | 1 μ Hz ~ 10 MHz | |
| Frequency resolution | 1 μ Hz or 7 significant figures | |
| Frequency stability | \pm 30 ppm at 0 \pm 40°C | |
| Frequency aging rate | \pm 30 ppm per year | |
| Amplitude characteristics (not specifically labeled, the load defaults to 50Ω) | | |
| Output amplitude | 2mVpp ~ 20Vpp (\leq 10MHz) High Z 2mVpp ~ 8Vpp (\leq 35MHz) High Z 1mVpp ~ 10Vpp (\leq 10MHz) 50 Ω 1mVpp ~ 4Vpp (\leq 35MHz) 50 Ω | 2mVpp ~ 20Vpp (\leq 10MHz) High Z 2mVpp ~ 8Vpp (\leq 70MHz) High Z 1mVpp ~ 10Vpp (\leq 10MHz) 50 Ω 1mVpp ~ 4Vpp (\leq 70MHz) 50 Ω |

| | | |
|---------------------------------------|---|---|
| Amplitude accuracy | $\pm(1\% \text{ of setting} + 1 \text{ mVpp})$ (Typical 1kHz sine, 0V offset) | |
| Amplitude resolution | 1mVpp or 4 digits | |
| DC offset range (AC-DC) | $\pm(10 \text{ Vpk} - \text{Amplitude Vpp}/2)$ High Z ($\leq 10\text{MHz}$) $\pm(5 \text{ Vpk} - \text{Amplitude Vpp}/2)$ High Z ($\leq 35\text{MHz}$) $\pm(5 \text{ Vpk} - \text{Amplitude Vpp}/2)$ 50 Ω ($\leq 10\text{MHz}$) $\pm(2 \text{ Vpk} - \text{Amplitude Vpp}/2)$ 50 Ω ($\leq 35\text{MHz}$) | $\pm(10 \text{ Vpk} - \text{Amplitude Vpp}/2)$ High Z ($\leq 10\text{MHz}$) $\pm(4 \text{ Vpk} - \text{Amplitude Vpp}/2)$ High Z ($\leq 70\text{MHz}$) $\pm(5 \text{ Vpk} - \text{Amplitude Vpp}/2)$ 50 Ω ($\leq 10\text{MHz}$) $\pm(2 \text{ Vpk} - \text{Amplitude Vpp}/2)$ 50 Ω ($\leq 70\text{MHz}$) |
| DC offset accuracy | $\pm(1\% \text{ of } \text{setting} + 1 \text{ mV} + \text{amplitude Vpp} * 0.5\%)$ | |
| Offset resolution | 1mVpp or 4 digits | |
| Output Impedance | 50 Ω (Typical) | |
| Arbitrary wave | | |
| Waveform length | 2-8K points | |
| Sampling rate | 125M Sa/s | 300M Sa/s |
| Modulation | | |
| Modulation Mode | AM、FM、PM、FSK | |
| Internal Modulation Frequency | 2 MHz to 100 kHz | |
| Sweep | | |
| Carrier | Sine, rectangular wave, ramp wave, arbitrary wave(Except DC) | |
| Minimum/maximum starting frequency | 1 μHz (minimum) / maximum frequency of corresponding carrier | |
| Minimum/maximum termination frequency | 1 μHz (minimum) / maximum frequency of corresponding carrier | |
| Types | Linear, logarithmic | |
| Sweep time | 1 ms to 500 s $\pm 0.1\%$ | |
| Trigger source | Internal, manual | |
| Burst | | |
| Waveform | Sine wave, square wave, ramp wave, pulse wave and arbitrary wave (Except DC) | |
| Types | N-Cycle | |
| Trigger source | Internal, manual | |
| Carrier frequency | 1 $\mu\text{Hz} \leq \text{Offset} \leq \text{Maximum frequency of corresponding carrier} / 2$ | |
| Trigger cycle | 58 ns \sim 1M s (Min = Cycles * Period) | 29 ns \sim 1M s (Min = Cycles * Period) |
| periodicity | 1 \sim 60000 (Max =Burst Period / Period) /infinite | |
| Input/Output Characteristics | | |
| Communication Interface | USB Device | |

| | |
|---------------------------------|--|
| Display | |
| Display type | 3.6 -inch color LCD display |
| Display resolution | 480 horizontal x272 vertical pixels |
| Display color | 65536 colors, 16 bits, TFT |
| Power | |
| Voltage | DC 5V /3A |
| Power consumption | < 15 W |
| Environment | |
| Temperature | Working temperature: 0 °C to 40 °C |
| | Storage temperature: -20 °C to 60 °C |
| Relative humidity | Less than 35°C: ≤ 90% relative humidity 35°C to 40°C: ≤ 60% relative humidity |
| Height | Operating 3,000 meters Non-operation 12,000 meters |
| Mechanical Specification | |
| Dimension | 200mm (Length)*68.5mm (Height)*73.6mm (Width) |
| Weight | About 0.5kg |
| Other | |
| Adjustment interval | The recommended calibration interval is one year |



7007020100146

V1.0.1