



Innovator In Spectroscopy Equipment

SGC2818



SIGNAL GENERATOR AND COUNTER MODEL SGC2818

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CATALOG



MISCELLANEOUS



FREE DOWNLOAD

SIGNAL GENERATOR AND COUNTER

MODEL SGC2818

Features

- Direct digital synthesizer technology
- Voltage Control Output (VCO) function
- 14-bit high-speed D/A converter chip
- Providing stable, precise and low distortion signals
- Less than 1mv quantization error (@ 5Vpp)
- Various preset waveforms including Sine, Square, Pulse, Tringle/Ramp, etc
- Various digital signals including 5V TTL and CMOS, 3.3V LVTTTL, 2.5V CMOS and 1.8V CMOS.
- Various NIM signals including negative NIM logic, slow positive NIM logic and ECL
- Various modulation types including AM, FM, PM, ASK, FSK and PSK
- Various sweep functions including frequency, amplitude, offset and duty-cycle.
- Counter function with 2 working mode including AC and DC
- Standard dual full functional channels equals to two independent generators.
- Waveform and state copy between channels using channel sync function
- 0.01o Precision in adjusting the phases of two channels
- Minimum amplitude resolution of 1mV
- Amplitude range 0~20Vpp.
- Independent and Adjustable duty-cycle for each channel from 0.01% to 99.99% with 0.01% resolution
- -10V~+10V DC offset function with 0.001V resolution
- Output short-circuit protection (All channels can work for 60 seconds when the load is short-circuited)



**Powerful Waveform Generator and Counter
with Two Fully Independent Channels**

Description

SGC2818 is a signal generator and counter applicable to many fields. The device comes with two fully separated channels where their parameters could be arbitrary set. The device can generate various functions including pulses, analog/digital modulated signals, VCO, Sweep, Counters, frequency meter and others in a high performance, cost effective manner. Abundant shortcut keys and graphical user interface simplifies the operations with SGC2818. The device is suited for education, research and development, production, testing, maintenance and other fields. The device is easy to use and users do not need to spend a lot of time learn how to work with SGC2818.

The output signals are stable, precise, pure and low distortion due to the Direct Digital Synthesizer (DDS) technology utilized in SGC2818. Because the wide range of users in different fields, various considerations are made during the R&D procedure for SGC2818. All functions of the instrument can be controlled through the embedded PC via device software. The system is equipped with an IPS touch screen which lead to user-friendly graphical user interface while bringing new experience in working with signal generators.

Specifications

Frequency
Waveform Models
Sine (0~60MHz)
Square (0~25MHz)
Ramp, Triangle (0~10MHz)
Pulse (0~10MHz)
TTL/CMOS (0~20MHz)
Accuracy
±25ppm
Stability
±0.5ppm/hour
Waveform Characteristics
Waveforms
Sine, Square, Pulse, Triangle/Ramp, Saw tooth Wave, CMOS, Four channels TTL, DC, Half wave, Full wave, Positive Step, Inverse Step, Positive Exponent, Inverse Exponent, Lorenz Pulse, Multi-tone, Noise, ECG, Trapezoidal Pulse, Sinc Pulse, Narrow Pulse, Gaussian White Noise, AM, FM, 5V CMOS (HC, AHC, AC), 5V TTL (TTL in/CMOS out, ACT, HCT, AHCT), 5V TTL (STD, H,LL, HS,LS, ALS), 3.3V TTL & CMOS (LV, LVT, ALVT, LVC, ALVC), 2.5V TTL & CMOS, 1.8V CMOS (AVC)
Sampling Rate
250MSa/s
Vertical Resolution
14bits
Output
Amplitude (Vpp)

Frequency≤10MHz: 1mVpp~20Vpp
10MHz≤Frequency≤20MHz: 1mVpp~10Vpp
Frequency>20MHz: 1mVpp~5Vpp
Resolution
1mV
Amplitude Stability
±0.1%/h
Amplitude Flatness
±2.5%(<10MHz)
±5%(>10MHz)
Waveform Output
Impedance
50Ω (Typical)
Protection
Work more than 30 seconds when short-circuited
Phase Feature
Phase range
0~359.99°
Phase resolution
0.01°
Controls
PC button
PC different functions
Power Push button
Push to turn device ON or OFF (Shutdown)
Display
IPS, Full color
10.1", 1280×800 pixels,
TTL Outputs
Number
2 differential channels for each output (Totally 2 outputs)
TTL level amplitude
>3Vpp
Fan-out
>8TTL load
Rise/Fall Time
≤10ns
CMOS Output
Low electric level
<0.3V
High electric level
1V~10V
Rise/Fall Time
≤18ns
VCO
Modulation signal range to input
0~5V
VCO signal frequency range
0-1000Hz
Special function

Amplitude and Frequency modulation by external signal

Modulation

Types

AM, FM, PM, ASK, FSK, PSK

Electrical and Mechanical

Power required

AC - 220V - 50Hz

Physical

Dimensions	466 x 230 x 357mm (L x W x H)
Weight	12.780kg
Storage temperature	0°C to 50°C
Operating temperature	10°C to 45°C.

Application

- Receiver testing in communication systems
- Electrical and electronics systems testing
- Nuclear magnetic resonance imaging
- High frequency induction heating
- Medical algorithms development
- Circuit and equipment testing
- Medical systems testing
- Discrete filter design

Software

Output Channel 1 and 2

Output online setting, Output Configuration, Typical signal viewing, Categorized signal selection, Output signal properties

Counter panel, Modulation and sweep




Read count, Rate calculating, Basic statistical functions

The screenshot displays the main window of the SGC2818 software. It features a central waveform display with two channels: CH1 (red) and CH2 (blue). The CH1 signal is a high-frequency sine wave, and the CH2 signal is a lower-frequency square wave. To the right of the waveform, there are two configuration panels: 'Channel 1 Configuration' and 'Channel 2 Configuration'. The Channel 1 configuration shows a SINC wave type, 60.000000MHz frequency, 05.0000 amplitude, 00.0000 offset, 50.0000 duty cycle, and 000.000 phase. The Channel 2 configuration shows an AM wave type, 60.000000MHz frequency, 05.0000 amplitude, 00.0000 offset, 50.0000 duty cycle, and 000.000 phase. Below the waveform, there are tabs for 'Counter', 'Modulation', and 'Sweep'. The 'Counter' tab is active, showing settings for Gate (1 S), Coupling (AC), and Mode (CNT). The 'Results' section displays measured values: Frequency (60.000 Hz), Cycle Time (240.00 nS), POS Pulse Width (1200.00 nS), NEG Pulse Width (1700.00 nS), and Duty Cycle (50.000 %). At the bottom, the status bar shows 'Connected: SGC2818SN:181020-001' and the date/time '1397/07/29 08:25:15'.



Main window

Ordering info

Standard package includes

Part #	Image	Description
SGC2818 main		Includes the main body of device
ACCE2818001		Power cord cable 220VAC
ACCE2818002		CD User guide (1 Pack)

Optional accessories and services

Part #	Image	Description
ACCE2818003		installation
ACCE2818004		Training



Innovator in Spectroscopy Equipment



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