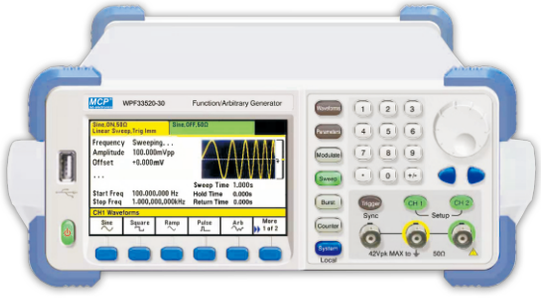
DDS FUNCTION (ARBITRARY) GENERATOR

WPF33520-20/ WPF33520-30/ WPF33520-60/ WPF33520-80 CE

Features

. Compelete dual channels function/arbitrary waveform generator
. Channel independence, coupling, track working mode
. 200 MSa/s sampling rate and 14-bit vertical resolution per channel
. Output of 6 standard waveforms, built-in 50 kinds of arbitrary waveform
. 1uHz~ 20M/30M/60M/80MHz frequency range for main waveform
. 10Hz ~ 250 MHz equal-accuracy frequency counter
. Multi modulation function: AM, DSSC - AM, FM, PM,PWM, FSK, ASK, BPSK and logarithm/linear sweep
. All modulation internal channel mutual and external: also
. Standard USB (H), USB (D), LAN and optional GPIB interface
. Various input and output: waveform output, synchronous signal output, external modulation input, counter input,10 MHz clock input, external trigger input, power signal output/power meter input



WPF33520-30

Technical Data		WPF33520-20	WPF33520-30	WPF33520-60	WPF33520-80
CH1,CH2	Output frequency	Sine: 1 μ Hz~20MHz Square: 1 μ Hz~20MHz Ramp:1 μ Hz~1MHz Pulse: 1 μ Hz~20MHz	Sine: 1 μ Hz~30MHz Square: 1 μ Hz~20MHz Ramp:1 μ Hz~1MHz Pulse: 1 μ Hz~20MHz	Sine: 1 μ Hz~60MHz Square: 1 μ Hz~20MHz Ramp:1 μ Hz~1MHz Pulse: 1 μ Hz~20MHz	Sine: 1 μ Hz~80MHz Square: 1 μ Hz~20MHz Ramp:1 μ Hz~1MHz Pulse: 1 μ Hz~20MHz
	Output amplitude	2mVpp~20Vpp (High Z) 1mVpp~10Vpp (50Ω)			
	Output impendence	50Ω (BNC)			
	Output wave	sine, square, ramp, pulse, triangle, noise, DC, arbitrary 50 kinds			
	Output modulation (CH1)	AM, DSSC - AM, FM, PM, FSK, ASK, PWM			
	Frequency resolution	1 μ Hz			
	Frequency stability	⩽ ±5×10^{-5}			
	Amplitude resolution	four effective digits			
	Amplitude accuracy	±1%±1mVp-p (1 kHz)			
	Amplitude flatness	<100kHz: ±0.5dB, 100kHz ~ 75MHz: ±1dB, 75MHz ~ 80MHz: -5dB			
	Offset range	±(10 VDC - AC peak/2) (High Z) ±(5 VDC - AC peak/2) (50 Ω)			
	Offset range accuracy	±1%±0.25% amplitude ±2mV(⩽180mV)		±1%±0.25% amplitude ±6mV(>180mV)	
Waveform feature	Sine wave	Harmonic distortion (0dB)	< -70dBc(<20kHz) < -50dBc (20kHz ~ 1MHz)	< -40dBc (1MHz ~ 30MHz) < -30dBc (30MHz ~ 80MHz)	
		Distortion factor（0dBm）	⩽0.05%(20Hz ⩽ f ⩽100 kHz)		
		Phase noise	⩽-108 dBc/Hz		
		Spurious signal	⩽-70dBc		
	Square wave	Rise and fall time	13ns		
		Duty ratio	0.01% ~ 99.9%, 0.01% resolution		
		Overshoot (50Ω)	⩽ 2%		
		Jitter	⩽200ps rms		
	Ramp	Symmetry	0.0% ~ 100.0%, 0.1% resolution		
		Non-linear distortion	⩽ 0.1%		
	Pulse	Rise and fall time	13ns~1us 0.1ns resolution		
		Duty ratio	0.01% ~ 99.9%, 0.01% resolution		
		Pulse width	21.3 ns ~ period - 21.35 ns, 0.1ns resolution		
		Overshoot (50Ω)	⩽ 2% (CH1)		
		Jitter	⩽200ps rms		
	Noise	Symmetry	30 MHz band width white noise (-3 dB)		
		Non-linear distortion	Cycle ⩾ 50 years		
	Arbitrary	Sampling rate	1 μ Sa/s ~ 50 MSa/s, 1 μ Sa/s resolution		
		Waveform length	8~16384 dots (CH1), 8~2048 dots (CH2)		
		Vertical resolution	14 bits		

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AM modulation	Type	FC AM, DSSC AM			
	Carrier wave	sine, square, ramp, noise, arbitrary			
	Modulation waveform	sine, square, ramp, triangle, noise, arbitrary			
	Modulation frequency	internal: sine, square, ramp, pulse full range , 1 μHz resolution Arbitrary 1 μSa/s ~ 50 MSa/s, 1 μSa/s resolution external: 1 μHz ~100 kHz (-3dB)			
	Modulation depth	0.0%~ 120.0%, 0.1% resolution, ±1.0% accuracy			
FM modulation	Carrier wave	sine, square, ramp, pulse			
	Modulation waveform	sine, square, ramp, triangle, noise, arbitrary			
	Modulation frequency	internal: 1 μHz ~ 100 kHz , 1 μHz resolution 1 μSa/s ~ 50 MSa/s (Arb), 1 μSa/s resolution external: 1 μHz ~100 kHz (-3dB)			
	Modulation deviation	0~carrier 50% (≤max.modulated frequency+100KHz), 1uHz resolution			
PM modulation	Carrier wave	sine, square, ramp, pulse			
	Modulation waveform	sine, square, ramp, triangle, noise, arbitrary			
	Modulation frequency	internal: sine, square, ramp, pulse full range , 1 μHz resolution 1 μSa/s ~ 50 MSa/s (Arb), 1 μSa/s resolution external: 1 μHz ~100 kHz (-3dB)			
	Modulation range	0.0°~360.0°, 0.01° resolution			
PWM	Carrier wave	pulse			
	Modulation waveform	sine, square, ramp, triangle, noise, arbitrary			
	Modulation frequency	internal: sine, square, ramp, pulse full range , 1 μHz resolution Arbitrary 1 μSa/s ~ 50 MSa/s, 1 μSa/s resolution external: 1 μHz ~100 kHz (-3dB)			
	Modulation range	0.0ns~width-21.3ns, 0.1ns resolution			
FSK	Carrier wave	sine, square, ramp, pulse			
	Jump frequency	internal: sine, square, ramp, pulse full range , 1μHz resolution			
	Switching rate	1 μHz ~1 MHz, 1 μHz resolution			
BPSK	Carrier wave	sine, square, ramp, pulse, arbitrary			
	Jump phase	0.00°~360.00°, 0.01° resolution			
	Switching rate	1 μHz ~1 MHz, 1 μHz resolution			
ASK	Carrier wave	sine, square, ramp, pulse, arbitrary, noise			
	Jump amplitude	2mVpp~ 20Vpp (High Z)			
	Switching rate	1 μHz ~1MHz, 1 μHz resolution			
Sweep	Wave form	sine, square, ramp, pulse			
	Starting frequency	sine, square, ramp, pulse full range , 1 μHz resolution			
	Ending Frequency	sine, square, ramp, pulse full range , 1 μHz resolution			
	Sweep mode	Linear/Log			
	Sweep time	0.001S ~ 1000S, 1mS resolution			
	Retention time	0.001S ~ 1000S, 1mS resolution			
	Fly back time	0.001S ~ 1000S, 1mS resolution			
Burst	Carrier wave	sine, square, ramp, pulse, arbitrary			
	Burst mode	N Cycle/Gated			
	Starting phase	0.0 ~ 360.0° , 0.1° resolution			
	Burst number	1 ~ 1000000000, 1 resolution			
	Interval time	1 μS ~ 8000S, 1 μS resolution			
Counter	Measuring function	frequency, period, count			
	Frequency input range	10Hz ~ 250 MHz AC coupling			
	Input voltage range	200mVrms ~ 1.5Vrms ≤200MHz			
	Gate time	50ms ~ 10s			
	Counter capacity	56 bits			
	Frequency accuracy	6 digits/s			

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Power Meter (option)	Frequency range	1KHz ~ 100MHz (sine)			
	Dynamic range	+15dBm～ -60dBm (RMS simultaneous display)			
	Accuracy	±1dB			
	Input impedance	50 Ω			
Power output (option)	Output wave	sine, square, ramp, pulse, arbitrary			
	Bandwidth	10Hz ~ 200 kHz			
	Output power	8W (sina,8Ω)			
	Output impedance	2 Ω			
	Accuracy	±1%，1kHz			
	Protection	Over load			
Dual channel character	Mode	sine, square, ramp, pulse, arbitrary			
	Couple parameter	10Hz ~ 200 kHz			
	Tracing parameter	in-phase, inverse phase, phase difference			
	Output impedance	2 Ω			
Power supply		100~240 V AC, 47Hz ~ 63Hz, <45VA			
Dimensions(W × H × D)		260 × 105 × 290mm			
Weight		2.5 kg			