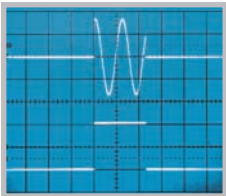


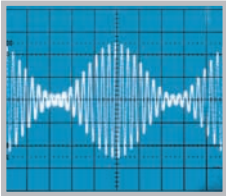
10 MHz Function Generator HM8130



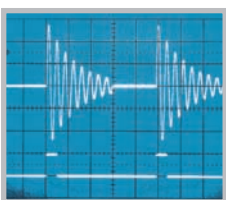
Sine wave, gated



Sine wave with amplitude modulation



Arbitrary signal, triggered



Frequency range from 10 mHz to 10 MHz

High signal purity and amplitude stability

Output voltage 20 V_{pp}, 10 V_{pp} into 50 Ω

Surge- and short-circuit-proof output

Rise and fall time < 10 ns

Pulse width adjustment

High-precision digital frequency display

Arbitrary waveform generator 40 MSa/s

Burst, gating, external triggering, sweep



10 MHz Function Generator HM8130

Valid at 23 °C after a 30 minute warm-up period

Frequency

Range:	10 mHz to 10 MHz
Resolution:	5-digit, max. 10 mHz
Display:	5-digit LED
Accuracy:	± (1 digit + 5 mHz)
Temperature coefficient:	0.5 ppm/°C
Aging:	2 ppm/year

Waveforms

Sine wave	
Frequency range:	10 mHz to 10 MHz
Amplitude:	0 - 20V _{pp} (open circuit)
Distortion:	to 500 kHz: < 0.5 % 500 kHz-3 MHz: < 1 % 3 MHz-10 MHz: < 3 %
Square wave	
Frequency range:	10 mHz to 10 MHz
Amplitude:	0 - 20V _{pp} (open circuit)
Rise/fall time:	< 10 ns
Overshoot:	< 5 % (V _{out} ≥ 200 mV)
Symmetry:	50 % ± (5 % + 10 ns)
Pulse	
Frequency range:	10 mHz to 5 MHz
Amplitude:	0...+10V and 0...-10V
Rise/fall time:	< 10 ns
Pulse width:	100 ns to 80 s
Duty cycle:	max. 80 %
Saw thooth	
Frequency range:	10 mHz to 500 kHz
Amplitude:	0 - 20V _{pp} (open circuit)
Linearity:	better than 1 %
Triangle	
Frequency range:	10 mHz to 2 MHz
Amplitude:	0 - 20V _{pp} (open circuit)
Linearity:	better than 1 %

Arbitrary generator

Frequency range:	10 mHz to 100 kHz
Amplitude:	max. 20V _{pp} (open circuit)
Sampling rate:	40 MSa/s
Resolution:	X: 1024 (10 bit); Y: 4096 (12 bit)

Inputs

Gate/trigger:	BNC connector
Impedance:	5 kΩ 100 pF; protected up to ±30 V
AM-IN:	amplitude modulation, BNC connector
Impedance:	10 kΩ; protected up to ±30 V

Outputs

Signal output:	(BNC connector) short-circuit proof; ext. voltage max. ±15V
Impedance:	50 Ω
Output voltage:	Range 1: 2.1 - 20V _{pp} (open circuit) Range 2: 0.21 - 2.0V _{pp} (open circuit) Range 3: 20 - 200 mV _{pp} (open circuit)
Resolution:	Range 1: 100 mV Range 2: 10 mV Range 3: 1 mV
Setting accuracy: (1kHz)	Range 1: ±2 % Range 2: ±3 % Range 3: ±4 % 3 % additional for pulse and square wave
Frequency response:	< 100 kHz: ±0.2 dB 100 kHz - 2 MHz: ±0.5 dB 2 MHz - 10 MHz: +0.5 dB / -3 dB
Offset error:	±50 mV (Range 3)
Display:	2½ digit (LED)

DC offset

Output voltage:	Range 1: -7.5...+7.5V (open circuit) Range 2: -0.75...+0.75V (open circuit) Range 3: -75...+75 mV (open circuit)
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Trigger output (BNC connector)

Ramp:	0 to 5V (sweep out)
Level:	5V/TTL
Output impedance:	1 kΩ

Internal sweep

Selectable start and stop frequency	
Internal sweep:	all waveforms
Sweep time:	linear from 20 ms to 100 s, continuous or triggered (ext. signal, interface)

Amplitude modulation:

Modulation via external signal	
Modulation depth:	0 to 100 %
Bandwidth:	DC - 20 kHz (-3 dB)

Gate (asynchronous)

Modulation on/off via external TTL signal	
Delay time:	< 150 ns
Input signal:	TTL

Trigger function (synchronous)

Burst mode via ext. trigger input or interface	
Frequency range:	< 500 kHz

Miscellaneous

Memory:	For the last device settings and for 8 arbitrary signals
Safety class:	Safety Class I [EN61010-1]
Power supply:	115/230 V ± 10 %; 50/60 Hz
Power consumption:	approx. 20 Watt
Operating temperature:	+10° C to +40° C
Max. relative humidity:	10 % - 90 % (without condensation)
Dimensions (W x H x D):	285 x 75 x 365 mm
Weight:	approx. 5 kg

Accessories supplied: Operator's Manual and power cable
Optional accessories: HZ10 Silicone test leads, HZ33/HZ34 50 Ω Test Cable, BNC-BNC, HZ24 Set of attenuators, 3/6/10 and 20 dB, HZ42 19" Rackmount kit 2RU, HZ20 Adapter Plug

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