

HM8021-4

1.6 GHz

Universal Counter

Technical Data



Key facts

- Frequency range 0 Hz to 1.6 GHz
- 10 MHz time base with 0.5 ppm stability (TCXO)
- Input A: Input impedance 1 M Ω , maximum sensitivity 20mVrms
- Input C: Input impedance 50 Ω , maximum sensitivity 30mVrms
- Time interval resolution up to 10 ps
- Offset mode over the entire measurement range
- Gate input (in combination with HO801)
- Mainframe HM8001-2 required for operation

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

Messfunktionen

Frequency A/C, Period A; Totalize A;
Pulse width: \square L/ \square U (averaged); Totalize A during ext. gate.

Input characteristics (Input A)

Frequency range:	
0 – 150 MHz:	DC-coupled
10 Hz – 150 MHz:	AC-coupled
Sensitivity: (normal triggering)	
DC – 80MHz:	20 mVrms (sine wave)
	80 mV (Puls)
80 MHz – 150MHz:	60 mVrms (sine wave)
20 Hz - 80MHz (auto trig.):	50 mVrms (sine wave)
Minimum pulse width:	5 ns
Input noise:	100 μ V (typ.)
Coupling:	AC or DC (switchable)
Input impedance:	1 M Ω 40 pF
Attenuator:	x1, x20 (switchable)
Max. input voltage:	
0 to 440 Hz:	400 V (DC + ACpeak)
1 MHz:	decreasing to 8 Vrms

Input characteristics (Input C)

Frequency range:	100 MHz – 1,6 GHz
Sensitivity:	
to 1,3 GHz:	30 mV (typ. 20 mV)
to 1,6 GHz:	100 mV (typ. 80 mV)
Input impedance:	50 Ω nominal
Coupling:	AC
Max. input voltage:	5 V (DC + ACpeak)

Input characteristics (external gate)

Input impedance:	4,7 k Ω
Max. input voltage:	\pm 30 V
High/low level:	\gt 2 V/ \leq 0,5 V
Min. pulse duration:	50 ns
Min. effective gate time:	150 μ s

Frequency measurement (Input A)

LSD:	$2,5 \times 10^{-7}$ s x Freq./measurement time
Resolution:	\pm 1 or 2 LSD

Period duration measurement

Range:	10000 sec to 66,6 ns
LSD:	$2,5 \times 10^{-7}$ s x period/measurement time
Resolution:	\pm 1 or 2 LSD

Totalize (manual / external gated)

Range:	DC to 20MHz
Min. pulse duration:	25 ns
LSD:	\pm 1 count
Resolution:	LSD
Ext. gate error:	100 ns (in manual mode only)

Time interval (averaged)

LSD:	100 ns to 10 ps
Resolution:	1 or 2 LSD

Offset

Range covers the entire measurement range

Gate time

(Gate time cannot be less than 1 period.)

Range:	100 ms ... 10 s in 3 steps
External gate time:	min. 150 μ s

Timebase

Frequency:	10 MHz clock
	10 MHz crystal
Accuracy (between 10°C and 40° C):	\pm 5 x 10 ⁻⁷
Aging:	\pm 3 ppm/15 years

General information

Display:	8-digit 7-segment LED display with 7.65mm digit height, sign and exponent
Power consumption:	approx. 7 Watt
Operating temperature:	+5°C ... +40°C
Storage temperature:	-20°C ... +70°C
Max. relative humidity:	5% ... 80% (without condensation)
Dimensions (W x H x D):	135 x 68 x 228mm
Weight:	approx. 0,6kg

Lieferumfang:

Universal-Zähler HM8021-4, Bedienungsanleitung

Optionales Zubehör:

HZ20	Adapterstecker (BNC-Stecker auf Bananenbuchse)
HZ24	Dämpfungsglieder 50 Ω (3/6/10/20dB)
HZ33	Messkabel 50 Ω (BNC auf BNC) 0,5m
HZ34	Messkabel 50 Ω (BNC auf BNC) 1,0m