Specifications

(Reference Temperature: 23°C ±1°C)

Measurement Functions:

Frequency A/C; Period A; Totalize A;
Pulse width ⎍ / ⎴ (averaged);
Totalize A during Ext. Gate, (option HO801)

Input A Characteristics:

Frequency Range: 0 to 150MHz (DC coupled), 10Hz to 150MHz (AC coupled)
Sensitivity(normal triggering)**:**
20mV$_{rms}$ (sine wave) DC to 80MHz, 80mV (pulse)
60mV$_{rms}$ (sine wave) 80MHz to 150MHz
50mV$_{rms}$ (sine wave) 20Hz to 80MHz, (auto trigger)
Min. Pulse Duration: 5ns
Input Noise: <100µV, typical
Coupling: AC or DC (switch selectable)
Input Impedance: 1MΩ||40pF
Attenuator: x1, x20 (switch selectable)
Max. Input Voltage: 250V (DC+AC$_{peak}$) from 0 to 440Hz down to 8V$_{rms}$ at 1MHz

Input C Characteristics

Frequency Range: 100MHz to 1.6GHz
Sensitivity: 30mV to 1.3GHz (typically 20mV)
100mV to 1.6GHz (typically 80mV)
Input Impedance: 50Ω nominal;
Coupling: AC
Max. Input Voltage: 5V (DC+AC$_{peak}$)

External Gate Input Characteristics (option HO801)

Input Impedance: 4,7kΩ
Max. Input Voltage: ±30V
High-/Low-Level: >2V/<0,5V
Min. Pulse Duration: 50ns
Min. Gate Time: 150µs

Frequency A

LSD: (2.5x10^{-7}s x Freq.) / measuring time
Resolution: ±1 or 2 LSD

Period A

Range: 10000sec to 66,6ns
LSD: (2,5x10^{-7}s x period / measuring time)
Resolution: ±1 or 2 LSD

Totalize A (manually / gated by external signal)

Range: DC to 20MHz
Min. Pulse Duration: 25ns
LSD: ±1 Count
Resolution: LSD
Ext. Gate Error(in manual mode only)**:** 100ns

Time Interval (averaged):

LSD: 100ns to 10ps (averaged);
Resolution: 1 or 2 LSD

Offset

Range: all measurement functions

Gate Time

Range: 100ms to 10s in 3 steps (cannot be shorter than 1 period)
External Gate Time: min. 150µs

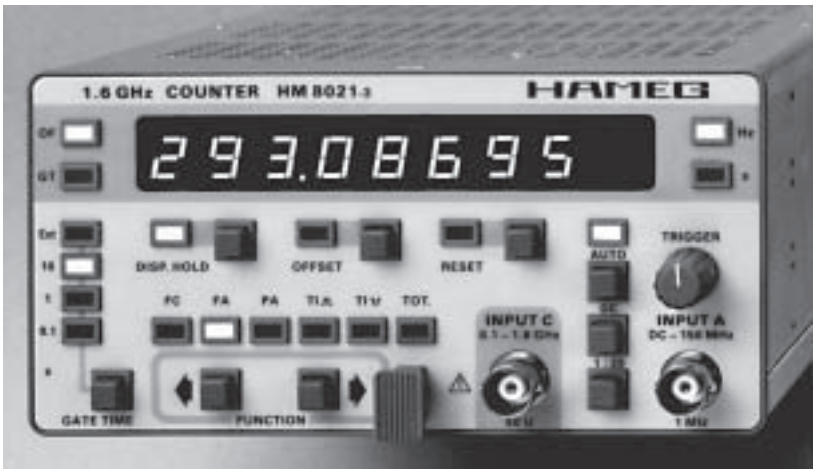
Time base

Frequency: 10MHz clock rate; 10MHz crystal (TCXO)
Accuracy: ±5x10^{-7} between 10°C and 40°C
Aging: <2.5ppm / year

General Information

Display: 8 digit 7 segment LED 7.65mm height. Sign and Exponent.
Power Requirements: 7W, nominal
Ambient Temperature: +10°C to +40°C (operation)
Humidity: 10%-90%, no condensation, 5%-95% RH
Dimensions: **W** 135 x **H** 68 x **D** 228 mm
Weight: approx. 650g

Values without tolerances are meant to be guidelines and represent characteristics of the average instrument.



Universal Counter HM8021-3

- **Frequency Range: DC to 1.6GHz**
- **Sensitivity: 20mV$_{RMS}$**
- **7 Measuring Functions**
- **3 Selectable Gate Times; External Gate (HO801)**
- **8 Digit LED Display**
- **Crystal Time Base (TCXO) 5x10^{-7}**
- **Selectable Auto Trigger**

The **HM8021-3** brought new dimensions to the price/performance ratio available in universal counters. With this new model, **HAMEG** continues to lead the market in high performance, low price counters in Europe.

This **microprocessor based** instrument has built in self test as well as two high sensitivity inputs, with an extended frequency range to **1.6GHz** for one of them. The reciprocal frequency measurement technique provides high resolution of low frequency signals with **7 significant digits** for a **1s** measurement duration. The **HM8021-3** is equipped with an extremely stable temperature compensated **crystal oscillator** (TCXO) with a stability of 0.5 ppm over the entire operating temperature range.

Readings of frequency, period, time interval and totalized count, up to 99,999,999, combined with the **Display Hold** function and a full range offset makes this instrument ideally suited for a broad range of applications. The **Auto Trigger** function allows accurate measurements to be made, even on noisy waveforms and those with extremely short duty cycles. The **HM8021-3** provides variable trigger control, offers selectable **20dB** attenuation and AC or DC coupling to simplify measurements on complex signals.

When comparing the **HM8021-3** to other instruments of its price range you can easily see what makes this **Universal Counter** such outstanding value.

Accessories supplied

Operators Manual

Optional accessories

BNC test cable HZ33
Probe 1:1/10:1 HZ154
BNC 50Ω attenuators HZ24
Adaptor BNC-Banana HZ20
OCXO HO85

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