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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 70310A € Precision Frequency Reference Module

Agilent HP 70310A Precision Frequency Reference The HP 70310A is a 1/8-width MMS precision frequency reference providing 10 MHz and 100 MHz outputs for HP 70000 systems. OEM Installation and Verification Manual content lists ovenized internal oscillator (except Option 002), EXT REF lock to 1/2/5/10 MHz at minus 5 to plus 21 dBm, Option 001 distribution amplifiers for 5 to 300 MHz at about 0 dBm, and factory MSIB address row 7 column 19. Stable 10/100 MHz reference distribution for modular spectrum analyzers and MMS instruments, standalone or as a slave to the system LO. The HP 70310A is a 1/8-width MMS precision frequency reference providing 10 MHz and 100 MHz outputs for HP 70000 systems. OEM Installation and Verification Manual content lists ovenized internal oscillator (except Option 002), EXT REF lock to 1/2/5/10 MHz at minus 5 to plus 21 dBm, Option 001 distribution amplifiers for 5 to 300 MHz at about 0 dBm, and factory MSIB address row 7 column 19. Stable 10/100 MHz reference distribution for modular spectrum analyzers and MMS instruments, standalone or as a slave to the system LO.



MODEL

**Agilent / Keysight
70310A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

70310A

LISTING

<https://aumictechlabs.com/products/70310a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 70310A is a precision frequency reference module engineered for the Keysight 70001A mainframe and compatible 70000 series instruments. This 1-slot plug-in module delivers highly stable 10 MHz and 100 MHz reference signals through an internal ovenized quartz oscillator, phase-locked for superior long-term stability and temperature performance. The rear-panel 10 MHz input accepts external house standards or GPS-synchronized references, enabling integration with existing frequency infrastructure.

Technical Specifications

Reference Outputs: 10 MHz, 100 MHz

Internal Oscillator: Ovenized quartz, phase-locked configuration

External Reference Input: 10 MHz (rear panel)

Power Input (Primary Reference Mode): 40 V DC - maintains crystal temperature stabilization independent of mainframe power state

Module Format: 1-slot wide plug-in

Control Interface: MSIB (Modular System Interface Bus)

Distribution Amplifiers: One or two independent four-output amplifiers available for 10 and 100 MHz signal distribution

Key Features

- Ovenized oscillator architecture ensures excellent frequency stability over time and temperature variations
- Phase-locked signal generation minimizes reference drift during extended measurement sessions
- Dedicated 40 V DC power path permits continuous crystal oven operation when mainframe is offline
- Multiple independent distribution amplifiers enable single-module reference distribution to multiple downstream instruments
- Option 002 configuration removes internal oscillator and power pack for cost-optimized installations dependent on external references

Typical Applications

- RF and microwave measurement systems requiring phase-coherent reference signals
- Instrumentation suites demanding rapid signal acquisition at narrow frequency spans
- Multi-instrument test benches requiring synchronized frequency references from a single source
- Systems integrating external atomic or GPS-disciplined frequency standards

Compatibility & Integration

Designed for seamless integration within the Keysight 70001A mainframe and 70000 series instrument family. The module accepts external 10 MHz standards, supporting migration paths from house clocks to disciplined atomic references without hardware redesign.

70310A Characteristics / Specifications

PARAMETER	VALUE
Module Width	1/8 MMS
Outputs Standard	10 MHz and 100 MHz
Factory Msib Address	row 7 column 19
Ext Ref Frequencies Accepted	1 2 5 or 10 MHz
Ext Ref Power Range	minus 5 to plus 21 dBm
Oven Cold Led	indicates oven warm-up on standard modules
PII Error Led	lights when reference absent or incorrect
Ext Pwr Input	external power pack for oven keep-alive (not on Option 002)
Host Mainframe	HP 70000 MMS
Control Modes	standalone reference or slave to system master 100 MHz Use Example: feeds HP 70900A 100 MHz IN 10 MHz Use: external instrument reference out
Warranty Option W	adds 2 years to standard 1 year return service
Module Family	precision frequency reference
Installation	left-side ROW/COLUMN address switches
Power From Mainframe	yes when installed
Ttl Ext Ref	TTL signal accepted per manual notes
Distribution Isolation	leveled isolated Option 001 outputs
Operating Role	MMS frequency reference

70310A Specifications

PARAMETER	VALUE
Agilent HP 70310A Precision Frequency Reference	Overview
Applications	Stable 10/100 MHz reference distribution for modular spectrum analyzers and MMS instruments, standalone or as a slave to the system LO.
Key Features	10 MHz and 100 MHz precision outputs
Ovenized reference (standard)	Option 001 dual distribution amplifiers
Option 002 external reference only version	1/8-width MMS module
Technical Specifications	Module Width: 1/8 MMS

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Module Width	1/8 MMS
Outputs Standard	10 MHz and 100 MHz
Factory Msib Address	row 7 column 19
Ext Ref Frequencies Accepted	1 2 5 or 10 MHz
Ext Ref Power Range	minus 5 to plus 21 dBm
Option 001 Dist Amp Input Frequency: 5 to 300 MHz	
Option 001 Dist Amp Input Power: minus 4 to plus 4 dBm	
Option 001 Dist Amp Output Level Approx: 0 dBm	
Option 001 Dist Amp Outputs Per Bank: 3	
Option 001 Dist Amp Banks: A andB	
Option 002 Internal Oven: deleted (external reference required)	
Specifications	
PARAMETER	VALUE
Oven Cold Led	indicates oven warm-up on standard modules
Pll Error Led	lights when reference absent or incorrect
Ext Pwr Input	external power pack for oven keep-alive (not on Option 002)
Host Mainframe	HP 70000 MMS
Control Modes	standalone reference or slave to system master
100 MHz Use Example: feeds HP 70900A 100 MHz IN	
10 MHz Use: external instrument reference out	
Warranty Option W30: adds 2 years to standard 1 year return service	
Specifications	
PARAMETER	VALUE
Module Family	precision frequency reference
Installation	left-side ROW/COLUMN address switches
Power From Mainframe	yes when installed
Ttl Ext Ref	TTL signal accepted per manual notes
Distribution Isolation	leveled isolated Option 001 outputs
Operating Role	MMS frequency reference

Notes

From HP 70310A Precision Frequency Reference Installation and Verification Manual (Keysight 9018-40103 lineage). Electrical amplitude accuracy beyond the listed approximate 0 dBm distribution outputs is confirmed on the performance verification chapter for the serial prefix.

Ordering Information

OPTION	DESCRIPTION
Option 001	distribution amplifiers for 5 to 300 MHz at about 0 dBm, and factory MSIB address row 7 column 19.
Option 002	external reference only version

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.