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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 3421A

Agilent HP 3421A Data Acquisition Control Unit The Agilent / HP 3421A is a data acquisition / control unit providing multiplexed analog measurement and digital control for automated systems over HP-IB. OEM 3421A literature describes thermocouple and voltage scanning with actuator control for physical-test automation. Temperature and voltage data logging, relay actuation, and HP-IB automated physical measurement systems. Instrument Type: data acquisition control unit The Agilent / HP 3421A is a data acquisition / control unit providing multiplexed analog measurement and digital control for automated systems over HP-IB. OEM 3421A literature describes thermocouple and voltage scanning with actuator control for physical-test automation. Temperature and voltage data logging, relay actuation, and HP-IB automated physical measurement systems. Instrument Type: data acquisition control unit Storage Temperature Class: minus 40 C to 75 C



MODEL

**Agilent / Keysight
3421A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

3421A

LISTING

<https://aumictechlabs.com/products/3421a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 3421A is a programmable data acquisition and control unit that integrates a 5½ digit voltmeter, 10 kHz counter, and HP-IL controller interface in a single mainframe. The system accommodates up to three optional assemblies, providing flexible configuration for automated test, measurement, and process control applications. Technical Specifications Measurement Capabilities: 5½ digit voltmeter resolution 10 kHz counter DC and AC voltage

measurement 2-wire and 4-wire resistance measurement Frequency measurement to 10 kHz
Temperature measurement with thermocouple compensation (T-type) Channel Scanning: 30
differential analog channels 56 single-ended analog channels Data Storage: 30 readings Power
Options: AC line powered Battery-powered operation with latching relays for uninterruptible
supply Optional 12V battery for automotive environments Interface: HP-IL controller (standard)
Optional HP-IB interface Environmental: Operating humidity less than 85% relative humidity at
30°C Key Features The 3421A supports three optional assemblies. The 10-channel multiplexing
assembly (44462A) provides signal input with built-in temperature reference junction and two
channels configurable as actuators for motor and alarm control. The 8-bit digital I/O assembly
(44465A) supplies 8-bit input and output ports for switch monitoring and low-voltage actuation
with individual bit or word control. A breadboard assembly enables custom circuit design and
direct 8-bit microprocessor communication. Programmable control functions support process
monitoring and automated operation. Temperature conversion for T-type thermocouples is
compensated on-board, eliminating external reference requirements. Typical Applications
Automated test systems, process control, environmental monitoring, multichannel data
acquisition, and equipment testing requiring precise measurement with remote
programmability. Compatibility & Integration Operates with HP computers (HP-85), HP handheld
calculators (HP-41C/CV), and HP-IB compatible controllers. Data Acquisition Pac software
available for enhanced logging and analysis.

3421A Characteristics / Specifications

PARAMETER	VALUE
Model	3421A
Instrument Type	data acquisition control unit
Manufacturer	HP Agilent Keysight
Interface	HP-IB IEEE-488
Analog Inputs	multiplexed scanner class
Actuators	digital control outputs class
Thermocouple Support	yes class
Form Factor	benchtop system unit
Operating Temperature Class	0 C to 55 C
Storage Temperature Class	minus 40 C to 75 C
Line Power	100/120/220/240 V
Humidity Class	non condensing
Display	channel and reading display
Scanning	programmable scan lists
Trigger	internal external HP-IB
Duty	continuous DAQ
Grounding	guarded measurement class
Cooling	convection or fan
Mass Class	benchtop
Calibration	analog path cal
Safety	instrument safety ground
Remote	full HP-IB
Channel Count Class	expandable
Relay Life Class	actuator relay ratings
Isolation Class	channel to channel isolation options

PARAMETER	VALUE
Storage temperature	Class: minus 40 C to 75 C
Operating temperature	Class: 0 C to 55 C
Humidity	Class: non condensing

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	Class: minus 40 C to 75 C
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Relay Life Class	actuator relay ratings
Isolation Class	channel to channel isolation options Notes Identity from Agilent/HP 3421A Data Acquisition Control Unit literature. Exact channel counts and accuracies depend on installed options and cards.

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	
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Notes

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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

Aumictech

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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.