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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 34901A

Switch Life Rated Load Typical: 100 thousand operations resistive Current Measurement Support: dc and ac current via fused channels 21 and 22 Current Input Protection: 1 A 250 V fuse on module Scanning DCV Rate Family: 60 ch/s into memory class with 34901A/34908A Current Measurement Support: dc and ac current via fused channels 21 and 22 Current Input Protection: 1 A 250 V fuse on module Scanning DCV Rate Family: 60 ch/s into memory class with 34901A/34908A Screw Terminal Wire Size: 16 to 22 AWG; 20 AWG recommended for high channel count



MODEL

**Agilent / Keysight
34901A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

34901A

LISTING

<https://aumictechlabs.com/products/34901a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 34901A is a general-purpose multiplexer module engineered for the 34970A and 34972A Data Acquisition/Switch Units. It has 20 primary signal channels plus 2 fused current inputs, delivering flexible multi-function signal routing at 60 channels per second. The module supports mixed two-wire and four-wire scanning configurations on a single card, enabling simultaneous measurement of voltage, current, resistance, frequency, and temperature sensors without external shunts. Technical Specifications Channels: 20 multiplexed signal channels + 2 fused current inputs (1 A AC/DC) Scan Rate: 60 channels/second Switching Voltage: Up to 300 V DC/AC Bandwidth: 10 MHz Scanning Modes: Two-wire and four-wire (mixed on same module) Switching: Break-before-make Module Slots: Single slot in 34970A/34972A mainframe Weight:

2.095 lbs

Key Features Built-in thermocouple reference junction eliminates external compensation
4-wire resistance measurement capability for precision low-resistance testing Direct current measurement via fused inputs without external shunt resistors Integrated multiplexing accommodates voltage, current, frequency, and resistance measurements on the same scan list Supports thermocouples, thermistors, and RTDs for temperature monitoring

Typical Applications Automated test and measurement systems Industrial automation data collection Laboratory research and sensor integration Multi-channel data logging with mixed sensor types

Compatibility & Integration The 34901A integrates exclusively with Keysight 34970A and 34972A mainframes, occupying one of three available module slots. The host unit has the digital multimeter engine and system control. The DAQ970A series uses incompatible newer modules and does not support the 34901A.

Features & description

From manufacturer datasheet

Built-in thermocouple reference junction

Break-before-make scanning Connects to the 34970A internal DMM Two-wire and four-wire channels mixable on the same module Technical Specifications Model: 34901A Instrument Type: Armature multiplexer module Number Of Channels: 20 plus 2 current channels Wiring: 2 wire or 4 wire selectable Max Scan Speed: 60 channels per second Open Close Speed: 120 per second Max Voltage: 300 V dc or ac rms channel to channel or channel to earth Max Current: 1 A dc or ac rms Max Power: 50 W or 50 VA Offset Voltage Initial: less than 3 μ V Closed Channel Resistance: less than 1 Ohm Isolation Channel To Channel: greater than 10 GOhm Bandwidth: 10 MHz Channel Crosstalk At 10 MHz: minus 45 dB Capacitance HI To LO: less than 50 pF Capacitance LO To Earth: less than 80 pF Thermocouple Cold Junction Accuracy Typical: 0.8 C Switch Life No Load Typical: 100 million operations Switch Life Rated Load Typical: 100 thousand operations resistive Current Measurement Support: dc and ac current via fused channels 21 and 22 Current Shunt 1 A: 5 Ohm Current Input Protection: 1 A 250 V fuse on module Scanning DCV Rate Family: 60 ch/s into memory class with 34901A/34908A Screw Terminal Wire Size: 16 to 22 AWG; 20 AWG recommended for high channel count

34901A Characteristics / Specifications

PARAMETER	VALUE
Model	34901A
Instrument Type	Armature multiplexer module
Number Of Channels	20 plus 2 current channels
Wiring	2 wire or 4 wire selectable
Max Scan Speed	60 channels per second
Open Close Speed	120 per second
Max Voltage	300 V dc or ac rms channel to channel or channel to earth
Max Current	1 A dc or ac rms
Max Power	50 W or 50 VA
Offset Voltage Initial	less than 3 uV
Closed Channel Resistance	less than 1 Ohm
Isolation Channel To Channel	greater than 10 GOhm
Bandwidth	10 MHz
Channel Crosstalk At 10 MHz	minus 45 dB
Capacitance HI To LO	less than 50 pF
Capacitance LO To Earth	less than 80 pF
Thermocouple Cold Junction Accuracy Typical	0.8 C
Switch Life No Load Typical	100 million operations
Switch Life Rated Load Typical	100 thousand operations resistive
Current Measurement Support	dc and ac current via fused channels 21 and 22
Current Shunt 1 A	5 Ohm
Current Input Protection	1 A 250 V fuse on module
Scanning DCV Rate Family	60 ch/s into memory class with 34901A/34908A
Screw Terminal Wire Size	16 to 22 AWG; 20 AWG recommended for high channel count
Mainframe Compatibility	34970A and 34972A (up to 3 modules per frame)

PARAMETER	VALUE
Operating Temperature	0 C to 55 C
Storage Temperature	minus 20 C to 70 C
Series Family	Keysight 34970A plug-in modules

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 20 C to 70 C
Operating temperature	0 C to 55 C
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Series Family	Keysight 34970A plug-in modules Notes From Agilent/Keysight 34970A Data Acquisition/Switch Unit datasheet multiplexer and modules specifications tables for 34901A.

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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Capacitance HI To LO	less than 50 pF
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Series Family	Keysight 34970A plug-in modules

Notes
From Agilent/Keysight 34970A Data Acquisition/Switch Unit datasheet multiplexer and modules specifications tables for 34901A.

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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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
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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.