



Keysight 34980A Multifunction Switch / Measure Unit

Compact, economical one-box solution for medium to high-density switch / measure applications in design verification, automated test and data acquisition

34980A Multifunction Switch / Measure Unit

The Keysight 34980A Multifunction Switch / Measure unit is designed for R&D and manufacturing test engineers working in design verification, automated test, or data acquisition who are either looking to upgrade their existing systems or need a new, cost-effective alternative.

The 34980A is an eight-slot mainframe that offers 19 plug-in modules and an optional 6 1/2-digit DMM. It is easy to integrate with standard LAN, USB, and GPIB connectivity to a PC and is priced up to 40% less than comparable switching solutions.

Broad offering of modules

With 19 different plug-in modules in low frequency, RF and microwave switching to 20 GHz, digital I/O, D/A converters, and counter/totalizer functionality, the 34980A has the core switch/measure functionality needed for most automated test and data acquisition applications. The 34980A can accommodate up to 560 2-wire MUX or 1024 2-wire matrix crosspoints in one mainframe.



Standard Dsub cable



Connector kit



Screw terminal block

Internal DMM option

The 6 1/2-digit DMM is mounted inside the mainframe without consuming any of the eight available slots. It can measure 11 types of inputs.

- Temperature and thermocouples, RTD's, or thermistors
- DC and AC voltage
- 2- and 4-wire resistance
- Frequency and period
- DC and AC current

Ease of integration

With the 34980A, you can make quick and easy system connections by choosing between standard 50— or 78-pin DSub cables, quick-disconnect terminal blocks, or mass interconnect connections.

The 34980A offers built-in LAN, USB 2.0, and GPIB interfaces for simple connection to your PC, as well as the most common programming environments with SCPI, IVI, or LabView software drivers.

Built-in graphical web interface

Remote access and control of the instruments via a Java-enabled browser.

- Set up, troubleshoot, and maintain your system remotely
- View and modify instrument setup
- Open, close, or monitor switches
- Setup and initiate scans
- Send SCPI commands
- Define and execute switch sequences
- View error queue
- Get status reports on relay counts, firmware revisions, and more

Low cost

Applications vary, and the 34980A is designed to meet specific testing needs by offering a flexible, tailorable solution for signal switching, battery testing, monitoring, product characterization, thermal profiling, environmental testing, and quality control at a price that is up to 40% less than comparable modular solutions.

34980A modules at a glance

The 34980A mainframe holds up to eight plug-in modules. Mix and match them to create a custom system for your switching and system control needs. You can easily add or replace modules as your requirements change.

Low-frequency modules

Multiplexers		Max volts	Max current	Scan Ch / sec
34921A	40 channel armature	± 300 V	1 A	100
34922A	70 channel armature	± 300 V	1 A	100
34923A	40 / 80 channel reed	± 150 V	0.5 A	500
34924A	70 channel reed	± 150 V	0.5 A	500
32925A	40 / 80 channel optically isolated FET multiplexer	± 80 V	0.5 A	1000

Matrix switches		Max volts	Max current	Scan Ch / sec
34931A	Dual 4 x 8 armature	± 300 V	1 A	100
34932A	Dual 4 x 16 armature	± 300 V	1 A	100
34933A	Dual / Quad 4 x 8 reed	± 150 V	0.5 A	500

GP / Actuator switches		Max volts	Max current	Scan Ch / sec
34937A	28 channel form C	300 V	1 A	N / A
	4 channel form A	250 AC	5 A	N / A
34938A	20 channel 5 Amp form A	250 AC	5 A	N / A

RF and microwave modules

RF switching		Insertion loss, freq range, VSWR
34941A	Quad 1 x 4 50 Ohm	0.6 dB, 3 GHz, < 1.25
34942A	Quad 1 x 4 75 Ohm	Contact factory

Microwave switching

34945A	Microwave switch / Attenuator drive	Drive up to 64 external switch coils; 32 SPDT switches, 8 multiport switches, 8 attenuators, or custom combination.
34946A	Dual 1 x 2 SPDT terminated	< 0.42 dB to < 0.69 dB, 4 GHz or 20 GHz, < 1.15 to < 1.30
34947A	Triple 1 x 2 SPDT unterminated	< 0.42 dB to < 0.69 dB, 4 GHz or 20 GHz, < 1.15 to < 1.30

System measurement and control modules

Information

34950A	64 Bit DIO with Memory Counter	Eight 8-bit digital I/O channels, up to 5 V thresholds, 7 handshaking protocols, pattern memory, two 10 MHz frequency counter/totalizers, 10 MHz programmable clock output
34951A	4 Channel Isolated D/A Converter with Waveform Memory	Output DC V up to ± 16 V or DC current up to ± 20 mA, Output waveforms w/200 kHz update rate and 16-bit resolution
34952A	Multifunction Module with 32 Bit DIO, 2 Channel D/A, and Totalizer	Four 8-bit digital I/O channels, 2 ± 12 V analog outputs, 100 kHz gated totalizer
34959A	Breadboard	Access to +12V and +5V supplies, 16 GPIO ports, 32 relay drive lines for custom designs

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com.



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