



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.



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 switche | es | 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</td> 34942A Quad 1 x 4 75 Ohm Contact factory

Microwave switching

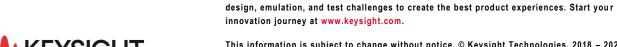
| 34945A | Microwave switch / Attenuator drive | Drive up to 64 external switch coils; 32 SPDT switches, 8 multiport switches, 8 attenuators, or custom combination. |
|--------|-------------------------------------|---|
| 34946A | Dual 1 x 2 SPDT terminated | < 0.42 dB to < 0.69 dB, 4 GHz or 20 GHz,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