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Back to the Agilent L4437A Product Page

Agilent L4437A 32-chan Form A/Form C General Purpose Switch

Data Sheet



- LXI compliance includes built-in Ethernet connectivity
- Fully-featured graphical Web interface
- 28 Form C channels up to 1 A, 60 W
- 4 Form A channels up to 5 A, 150 W
- Armature latching relays
- Relay counter
- Temperature sensor for overheating conditions
- Simultaneous channel switching
- Software drivers for most common programming environments

General purpose switch offers high-power signal switching wherever your application needs it

The Agilent L4437A is a general purpose switch that is LXI Class C compliant. With its small size and Ethernet connectivity, this switch can be placed wherever your application needs it.

The L4437A has 32 general purpose switches that can be used to cycle power to products under test, control status lights, and to actuate external power relays and solenoids.

28 channels are Form C switches for basic switching needs. An addition 4 Form A channels are offered for high-power switching needs.

Using this LXI instrument, you'll get all the benefits of an Ethernet connection, instrument Web server, standard software drivers and more. The LXI standard is supported by multiple vendors, enabling lower cost of test with accelerated test integration and development.

Agilent Technologies

Versatile switching for your high-power switching needs

The L4437A general-purpose switch can be used to route signals or to control other system devices. This switch is ideal for device actuation and switching loads or power supplies.

The L4437A switch has 28 independent single-pole, double-throw (SPDT) 1 A relays and 4 single-pole, single-throw (Form A) 5 A relays. The 28 Form C channels have 300 V, 1 A contacts and can handle up to 60 W. The form A channels are 30 VDC/250 VAC, 5 A contacts and can handle up to 150 W, enough for many power line-switching applications.

These switches are made of latching armature relays where multiple channels can be closed at the same time. Additionally, for switching reactive loads, the optional terminal blocks have pads for snubbing circuits.

The sequence feature defines switch closures and controls and can be used to easily change between different switch setups. Assign a sequence, give it a name and then execute it with the custom name you created.

External trigger capabilities make it easy for you to time and synchronize switch closures and openings.

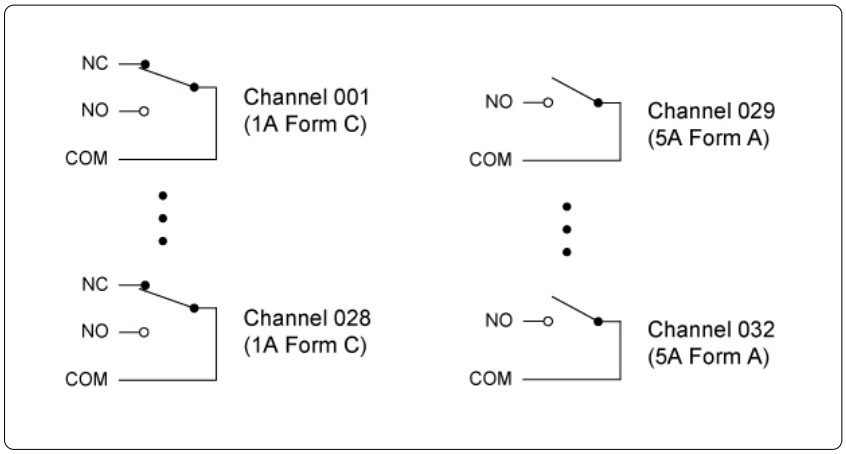


Figure 1. L4437A 32-Ch General Purpose Switch

The L4437A also includes a relay counter to monitor and help predict when relays are nearing their end of life.

System connections you can trust

The L4437A comes with 2 heavy duty 50-pin Dsub connectors that allow for simple, reliable connection options. Each connector uses 30 micro-inches of gold to ensure a repeatable, accurate measurement. Flexible connection options include:

- Detachable terminal blocks with strain relief
- Low-cost, standard 50-pin Dsub connector kits and cables
- Mass interconnect solutions

Ethernet connectivity enables simple connection to the network and remote access to measurements

The Ethernet interface offers high-speed connections that allow for remote access and control. You can set up a private network to filter out unwanted LAN traffic and speed up the I/O throughput, or take advantage of the remote capabilities and distribute your tests worldwide. Monitor, troubleshoot, or debug your application remotely. Ethernet communication also can be used with the support of LAN sockets connections.

The optional GPIB interface has many years of proven reliability and can be used for easy integration into existing applications.

The L4437A ships with the Agilent E2094N I/O Libraries Suite making it easy for you to configure and integrate instruments into your system – even if your system includes instruments from multiple vendors.

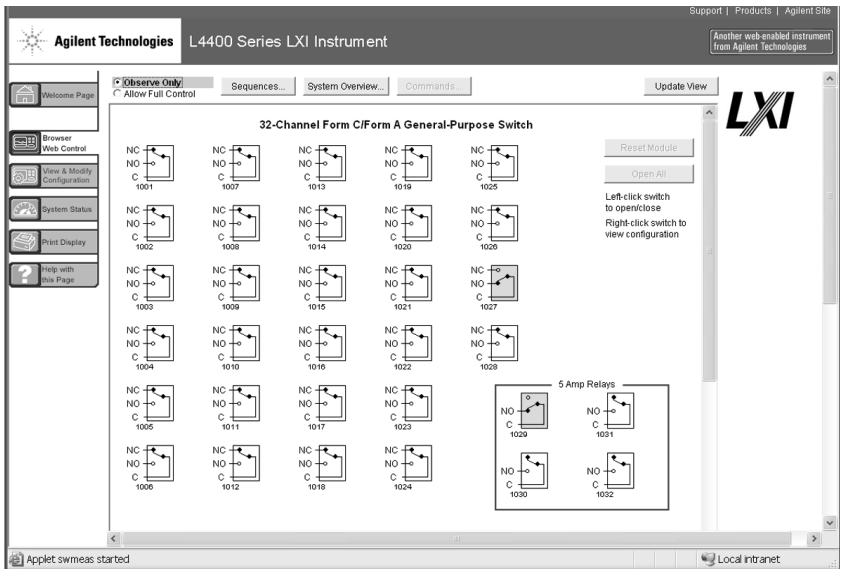


Figure 2. The Web interface makes it easy to set up, troubleshoot and maintain your test remotely

Fully-featured graphical Web interface makes it easy to set-up and troubleshoot your tests from anywhere in the world

The built-in Web browser interface provides remote access and control of the instrument via a Java-enabled browser such as Internet Explorer. Using the Web interface, you can set up, troubleshoot, and maintain your instrument from remote locations.

- View and modify instrument setup
- Open or close switches
- Send, receive and view SCPI commands
- Define and execute switch sequences
- View error queue
- Get status reports on relay counts, firmware revisions, and more

Additionally, since the Web server is built into the instrument, you can access it on any operating system that supports the Web browser without having to install any special software. Password protection and LAN lockout are also provided to limit access for additional security.

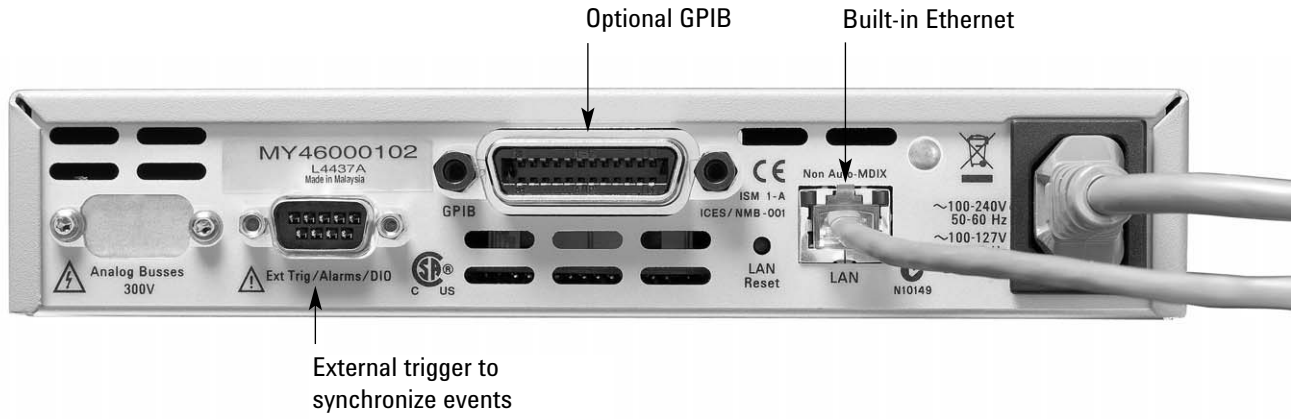
Software for most popular programming environments

Full support for standard programming environments ensures compatibility and efficiency. You can use direct I/O with the software you already have and know, or use standard IVI and LabVIEW™ software drivers that provide compatibility with the most popular development environments:

- Agilent T&M Toolkit for Microsoft Visual Studio®.NET and Agilent VEE Pro
- National Instruments LabVIEW, LabWindows/CVI, TestStand, and Switch Manager
- Microsoft C/C++® and Visual Basic®

High-performance switching wherever your application needs it





Product Specifications

Specifications and Characteristics

	Channels/configurations		28 form C 4 Form A
	Switch type		Armature latching
Input characteristics (per channel)			
	Max volts (DC, AC RMS)[1]		Form C - 300 V Form A 30 VDC/250 VAC
	Max current (DC, AC RMS)		Form C - 1 A switch (2 A carry) Form A - 5 A switch (8 A carry)
	Power (W, VA)[2]		Form C - 60 W Form A - 150 W
	Volt-Hertz limit		10^8
General specifications			
	Offset voltage		< 3 uV
	Initial closed channel resistance		Form C - 125 mΩ Form A - 50 mΩ
	DC Isolation (ch-ch, ch-earth)		>10 GΩ
AC characteristics			
	Bandwidth at terminal block[3]		10 MHz
	Channel isolation at terminal block (ch-ch)[3]		
		100 kHz	55 dB
		1 MHz	35 dB
		10 MHz	15 dB
	Capacitance at terminal block		
		Ch-Ch	Form C 12 pF/ Form A 10 pF
		Ch-earth	Form C 21 pF/Form A 18 pF
General characteristics			
	Relay life typical		Form C – 100 M/100 k Form A – 50 M/30 k
	Open /close time		Form C – 4 ms/4 ms Form A – 10 ms/10 ms
	Initial/reset relay state		Form C – maintains state Form A – user configurable
	Analog bus connection		No

[1] DC or AC RMS voltage, channel-to-channel or channel-to-earth
[2] Limited to 6 W of channel resistance power loss
[3] 50 Ohm source, 50 Ohm load, differential measurements verified (S21)

Product Specifications (continued)

General specifications

Power supply	Universal 100 V to 240 V ±10%
Power line frequency	50 Hz to 60 Hz ±10% automatically sensed
Power consumption	15 VA
Operating Environment	Full accuracy for 0°C to 55°C Full accuracy to 80% R.H. at 40 °C Pollution degree 1 of IEC 61010-1
Storage environment	-40°C to 70°C
Dimensions (H x W x L)	40.9 x 212.3 x 379.3 mm 1.61 x 8.36 x 14.93 in
Weight	3.8 kg, 8.4 lbs
Safety conforms to	CSA, UL/IEC/EN 61010-1
EMC conforms to	IEC/EN 61326-1, CISPR 11
Warranty	1 year

Memory

States	5 instrument states with user label in non-volatile memory

Product Specifications (continued)

Software

Agilent connectivity software included	Agilent I/O Libraries Suite 14 or greater (E2094N)	

Minimum system requirements

PC hardware	Intel Pentium 100 MHz, 64 Mbyte RAM, 210 Mbyte disk space	
	Display 800x600, 256 colors, CD-ROM drive	
Operating system[1]	Windows® 98 SE/NT/2000/XP	

Computer interfaces

Standard LAN 10BaseT/100BaseTx	
Optional IEEE 488.2 GPIB	

Software driver support for programming languages

Software drivers	IVI-C and IVI-COM for Windows NT®/2000/XP	
	LabVIEW	
Compatible with programming tools and environments		
	Agilent	VEE Pro
		T&M Toolkit (reqs Visual Studio.NET)
	National Instruments	TestStand
		Measurement Studio
		LabWindows/CVI
		LabVIEW
		Switch Executive
	Microsoft	Visual Studio.NET®
		C/C++
		Visual Basic 6®

[1] Load I/O Libraries Version M for Windows NT support or version 14.0 for Windows 98 SE support

Ordering information

L4437A 32 Channel Form C/Form A General Purpose Switch
Includes User's guide on CD, test report, power cord, and Quick Start package

Option -GPIB
Adds GPIB interface

Option 0B0
Deletes printed manual set, full documentation included on CD ROM

Option ABA
English printed manual set

Connection Options
Select terminal block for discrete wiring, cables or connector kits. Cables and connector kits require 2 per instrument.

34937T
Terminal block for 34937A and L4437A General Purpose Switch

Y1135A
1.5 m 50-pin Dsub, M/F twisted pair with outer shield cable – 300 V

Y1136A
3 m 50-pin Dsub, M/F twisted pair with outer shield cable – 300 V

Y1139A
Solder cup connector kit with female 50-pin Dsub

Other accessories

Y1160A
Rack mount kit for L4400 series instruments-racks 2 instruments side-by-side with sliding tray

For additional information please visit:
http://www.agilent.com/find/L4437A

Related Agilent literature

Data Sheets

5988-6302EN
Agilent VEE Pro

5989-1441EN
Agilent W1140A-TKT

T&M Toolkit 2.0 with Test Automation

5989-1439EN
Agilent E2094N I/O Libraries Suite 14

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