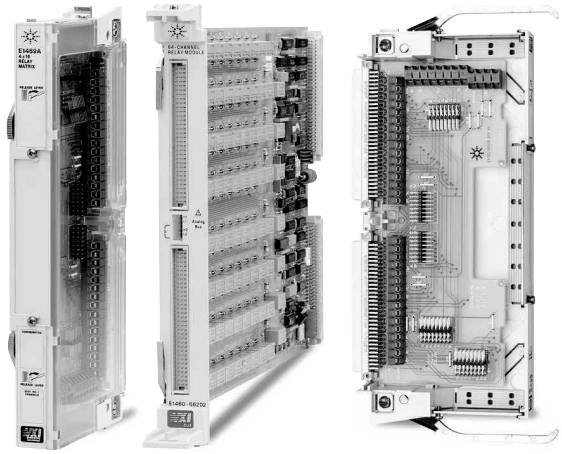
Agilent E1469A
4x16 Relay Matrix Switch

Data Sheet

- **1-Slot, C-size, register based**
- **Connect multiple inputs to multiple outputs**
- **4x16 two-wire switching with a guard or shield**
- **Expand rows/columns to make larger matrixes**
- **Includes QUIC easy-to-use terminal block**
- **Latching relays**



Agilent E1469A

Description

The Agilent Technologies E1469A matrix is a **C-size, 1-slot, register-based VXI module.** This module consists of a 64-channel two-wire relay component card (same component card as the E1460A). A terminal block, which provides 4x16 matrix topology, is included.

The E1469A matrix switches both high and low on each crosspoint. Multiple modules can easily be interconnected with the E1468-80002 daisy-chain cable. The E1468-80002 daisy-chain cable allows quick connect and disconnect of one module from another and is easily attached to expansion connectors on the E1469A terminal blocks. For applications requiring more than 64 crosspoints, the newer E1465/66/67A relay matrixes are recommended unless your application requires the high voltage/power capability and superior crosstalk performance of the E1469A matrix.

Refer to the Agilent Technologies Website for instrument driver availability and downloading instructions, as well as for recent product updates, if applicable.

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Configuration

The E1468-80002 daisy-chain cable allows quick connect and disconnect of one module from another and is easily attached to expansion connectors on the E1468/69A terminal blocks. For a 4x48 matrix, order three daisy-chain cables to interconnect three E1469As. For a 16x16 matrix, order eight daisy-chain cables to interconnect four E1468As. Similarly, to interconnect three E1468As into an 8x24 matrix, order four daisy-chain cables. Check to see whether the higher density E1465/66/67A family is a better fit for your application.

Product Specifications

Input

Maximum voltage (any terminal to any other terminal or chassis):

dc:	220 V
ac rms:	250 V
Peak:	n/a

Maximum current (per channel common, non-inductive):

1 Adc or ac rms (V<30 Vdc/rms), 0.3 Adc or ac rms (V<220 Vdc/rms)

Maximum power:

Per channel:	n/a
Per module:	40 VA

dc

Maximum thermal offset per channel, differential Hi-Lo:	7 μV

Closed channel resistance (per channel):

Initial:	<1.5 Ω (initially)
End of life:	<3.5 Ω

Insulation resistance (between any two points):

≤40° C, ≤95% RH:	5 x 10E8 Ω
≤40° C, ≤65% RH:	n/a
≤25° C, ≤40% RH:	5 x 10E8 Ω

ac

Minimum bandwidth (–3 dB, Z_L=Z_X= 50 Ω):	10 MHz 25 MHz (typical)

Crosstalk (dB, channel-to-channel typical):

<10 kHz:	<–90
<100 kHz:	n/a
<1 MHz:	n/a
<10 MHz:	n/a

Closed channel capacitance:

Hi-Lo:	650 pF
Lo-Chassis:	700 pF

Note: Crosstalk, insulation resistance, and bandwidth specifications are for a single matrix module only. Matrix expansion will degrade these specifications.

General

Minimum relay life:	
No load:	4x10E6 operations
Screw terminal wire size:	18 to 26 AWG (1.2, 0.9, 0.75, 0.6, 0.5 mm)
Bias current:	<0.5 nA/Volt *(at 25° C, 25% RH) (From HI or LO chassis, per group of 16 channels)*

General Specifications

VXI Characteristics

VXI device type:	Register based, A16, slave only
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	None
VXI buses:	TTL trigger bus

Instrument Drivers - See the Agilent Technologies Website (http://www.agilent.com/find/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.04
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
Panel Drivers:	Yes
VXI*plug&play* Win Framework:	Yes
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

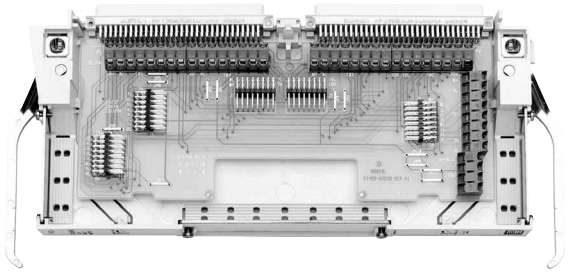
	I_{PM}	I_{DM}
+5 V:	0.1	0.1
+12 V:	0	0
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

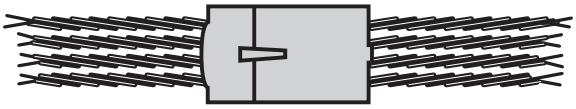
Watts/slot:	5.00
ΔP mm H_2O:	0.08
Air Flow liter/s:	0.42

Ordering Information

Description	Product No.
4x16 Relay Matrix Switch	E1469A
Service Manual	E1469A 0B3
Daisy Chain Cable Kit	E1468-61601
Extra Terminal Block Assembly, QUIC	E1469-80011

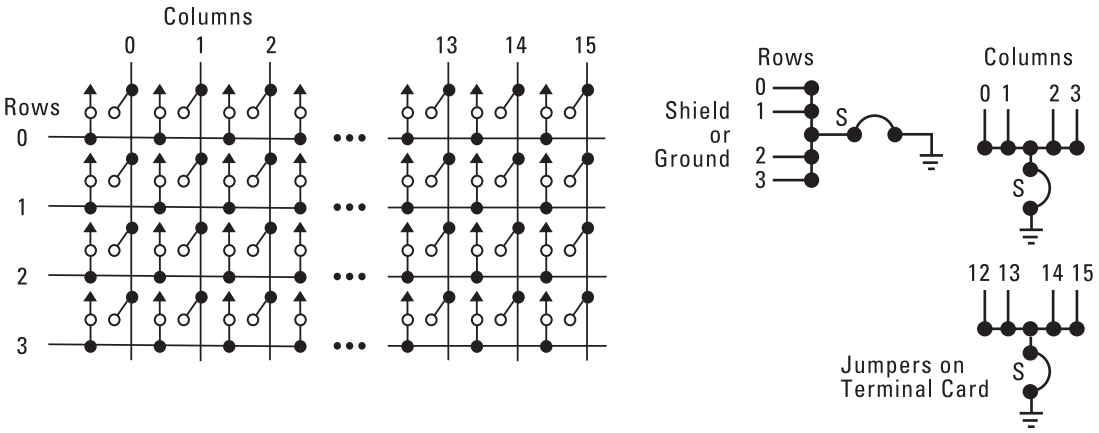


E1469A Terminal Block



Daisy Chain Cable: E1468-80002

E1469A Each Crosspoint Switches 2-Wire Hi and Lo



E1469A Circuit Diagram

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Data Subject to Change

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