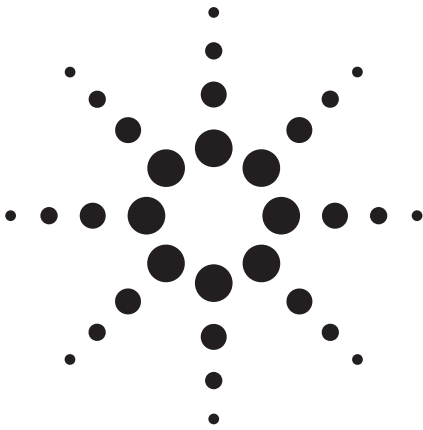
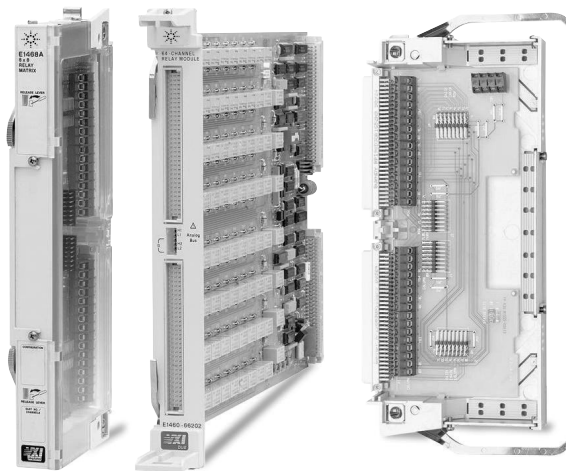


# Agilent E1468A 8x8 Relay Matrix Switch

## Data Sheet



- 1-Slot, C-size, register based
- Connect multiple inputs to multiple outputs
- 8x8 and 4x16 two-wire switching
- Guard or shield available for each row and column
- Includes QUIC easy-to-use terminal block
- Latching relays



Agilent E1468A

### Description

The Agilent E1468A matrix module is a **C-size, 1-slot, register-based VXI module**. This module consists of a 64-channel, two-wire relay component card (uses the same component card as the E1460A). A terminal block, that provides 8x8 matrix topology, is included. The E1468A 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 E1468A terminal blocks. For applications requiring more than 64 crosspoints, the E1465/66/67A relay matrixes are recommended unless your application requires the high voltage/power capability and superior crosstalk performance of the E1468A matrix.

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

### 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 high 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  $\mu$ V

Closed channel resistance (per channel):

Initial:	<1.5 $\Omega$ (initially)
End of life:	<3.5 $\Omega$

Insulation resistance (between any two points):

$\leq 40$ °C, 95% RH:	5 x 10E8 $\Omega$
$\leq 40$ °C, 65% RH:	n/a
$\leq 25$ °C, $\leq 40$ % RH:	5 x 10E8 $\Omega$

### AC

Minimum bandwidth

(-3 dB,  $Z_L = Z_X = 50 \Omega$ ): 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 to 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 busses:	TTL trigger bus
C-size compatibility:	n/a

### Instrument Drivers

See the Agilent Technologies Website ([http://www.agilent.com/find/inst\\_drivers](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
VXIplug&play Win Framework:	Yes
VXIplug&play Win 95/NT Framework:	Yes
VXIplug&play HP-UX Framework:	No

### Module Current

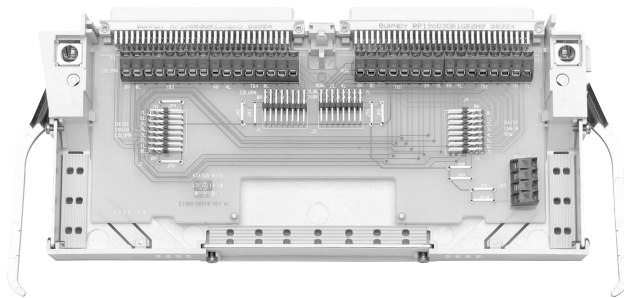
	$I_{PM}$	$I_{DM}$
+ 5 V:	0.1	0.1
+ 12 V:	0	0
-12 V:	0	0
+ 24 V:	0	0
-24 V:	0	0
-5.2 V:	0	0
-2 V:	0	0

### Cooling/Slot

Watts/slot:	5.00
$\Delta P$ mm H <sub>2</sub> O:	0.08
Air Flow liter/s:	0.42

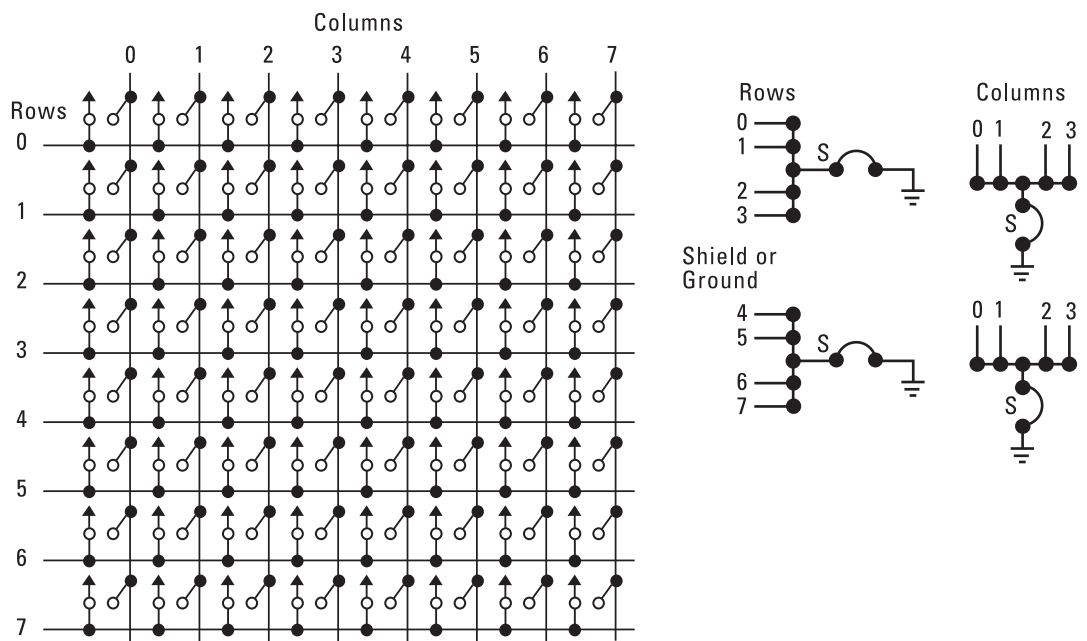
### Ordering Information

Description	Product No.
8x8 Relay Matrix Switch	E1468A
Service Manual	E1468A 0B3
3 Yr. Retn. to Agilent to 1 Yr. OnSite Warr.	E1468A W01
Extra Terminal Block	E1468-80011

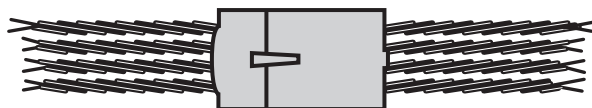


**E1468A Terminal Block**

**E1468A Each Crosspoint Switches 2-Wire Hi and Lo**



**E1468A Matrix Diagram**



**Daisy Chain Cable: E1468-80002**

## Related Literature

*2000 Test System and VXI Catalog CD-ROM*,  
Agilent Pub. No. 5980-0308E (detailed specifications for VXI products)

*2000 Test System and VXI Catalog*,  
Agilent Pub. No. 5980-0307E (overview of VXI products )

*1998 Test System and VXI Products Data Book*,  
Agilent Pub. No. 5966-2812E

## Online

Internet access for Agilent product information, services and support  
[www.agilent.com/find/tmdir](http://www.agilent.com/find/tmdir)

VXI product information  
[www.agilent.com/find/vxi](http://www.agilent.com/find/vxi)

Defense Electronics Applications  
[www.agilent.com/find/defense\\_ATE](http://www.agilent.com/find/defense_ATE)

Agilent Technologies VXI Channel Partners  
[www.agilent.com/find/vxichanpart](http://www.agilent.com/find/vxichanpart)

Agilent Technologies' HP VEE Application Website  
[www.agilent.com/find/vee](http://www.agilent.com/find/vee)

Agilent Technologies Data Acquisition and Control Website  
[www.agilent.com/find/data\\_acq](http://www.agilent.com/find/data_acq)

Agilent Technologies Instrument Driver Downloads  
[www.agilent.com/find/inst\\_drivers](http://www.agilent.com/find/inst_drivers)

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