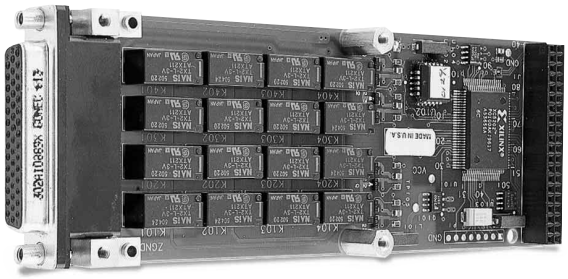
Agilent E2271A
4x4 Matrix Switch M-Module

Data Sheet

- **Single wide, register based**
- **Highly flexible matrix switching**
- **16 DPST latching relays (2-wire)**
- **FIFO for storing up to eight relay operations**



Agilent E2271A

Description

The Agilent E2271A 4x4 Matrix Switch is a **single-wide, register-based M-Module**. It contains 16 DPST latching relay switches organized as a 4x4 relay matrix. This allows for four sources and four destinations of two-wire switching to connect in any desired combinations. Therefore, it brings highly flexible matrix switching to your test system.

Logic on the card provides for maskable interrupts (INTC type) once the requested relay movements are complete. The module also has a FIFO for storing up to 8 relay operations. You can write rapid setup changes to the module and execute them with only one interrupt occurrence once the entire group of relay movements is complete.

You can use this M-Module to conveniently connect a group of instruments to several points on a device under test. A matrix module can be the center of a larger switching system, within the E2251A C-size carrier, with multiplexer and general purpose relays connecting multiple signals to the matrix.

With each M-Module having its own address within the E2250A and E2251A M-Module carriers, you have the flexibility to use the M-Modules in many combinations. This flexibility allows you to get the amount of functionality you need in smaller blocks, lowering your overall system costs. Please see the E2250A or E2251A Technical Specifications for M-Module slot requirements.

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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Product Specifications

Input

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

Note: *These limits apply only if the product is installed in a humidity-controlled (<60% RH) environment where airborne contaminants and transients are controlled, and no relay connection is made to power mains. If these conditions cannot be maintained, then 60 Vdc, 48 Vac-rms or 68 Vac-peak voltage limit applies.*

DC:	60 V/200 V (see note)
AC rms:	48 V/125 V (see note)
AC peak:	68 V/175 V (see note)
Maximum current (noninductive):	
Per channel:	
DC:	2 A
AC rms:	2 A
Per module:	
DC:	8 A
AC peak:	8 A
Maximum power:	
Per channel:	
DC:	50 W
AC:	50 VA
Per module:	
DC:	200 W
AC:	200 VA

DC

Maximum thermal offset per channel, differential Hi-Lo:	<3 μV (typical)
Closed channel resistance (per channel):	
Initial:	0.3 Ω (Hi or Lo) (typical)
End of life:	<2 Ω (Hi or Lo)
Insulation resistance (between any two points):	
≤40 °C, ≤65% RH:	10E8 (typical)
≤40 °C, ≤95% RH:	n/a
≤25 °C, ≤40% RH:	10E8 (typical)

AC

Typical bandwidth (–3 dB):	>10 MHz (typical)
Crosstalk (dB, channel-to-channel):	
<10 kHz:	n/a
<100 kHz:	<–64 dB (typical)
<1 MHz:	<–44 dB (typical)
<10 MHz:	<–24 dB (typical)
Closed channel capacitance:	
Hi-Lo:	<40 pF (typical)
Hi-Chassis	<60 pF (typical)
Lo-Chassis	<60 pF (typical)
Hi-Hi:	n/a
Insertion loss:	n/a

M-Module Characteristics

Output connector type:	44-pin D-Sub (female)
Standard compliance:	IDENT, A08, D08, INTC
Accessory:	44-pin D-Sub (male) with plastic housing

General Characteristics

Relays:	16 latching relays
Typical relay life (number of operations):	
No load:	n/a
Rated load:	10E5 (typical)
Time to close or open a channel (register programming):	8 msec
Connector type, wire size:	
Standard:	44 pin D-Sub
Screw:	n/a
Power up/down states:	Latching relays retain last programmed state

General Specifications

VXI Characteristics

VXI device type:	Register based
Data transfer bus:	n/a
Size:	n/a
Slots:	n/a
Connectors:	n/a
Shared memory:	n/a
VXI busses:	n/a
C-size compatibility:	Yes with E2251A

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.08
I-SCPI Win 3.1:	No
I-SCPI Series 700:	No
C-SCPI LynxOS:	No
C-SCPI Series 700:	No
Panel Drivers:	No
VXI*plug&play* Win Framework:	No
VXI*plug&play* Win 95/NT Framework:	Yes
VXI*plug&play* HP-UX Framework:	No

Module Current

	I_{PM} (A)	I_{DM} (A)
+5 V:	0.2 A	0.18 A
+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

Ordering Information

Description	Product No.
16-Ch Relay Multiplexer M-Module	E2271A

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

VXI product information
www.agilent.com/find/vxi

Defense Electronics Applications
www.agilent.com/find/defense_ATE

Agilent Technologies VXI Channel Partners
www.agilent.com/find/vxichanpart

Agilent Technologies' HP VEE Application Website
www.agilent.com/find/vee

Agilent Technologies Data Acquisition and Control Website
www.agilent.com/find/data_acq

Agilent Technologies Instrument Driver Downloads
www.agilent.com/find/inst_drivers

Agilent Technologies Electronics Manufacturing Test Solutions
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Get assistance with all your test and measurement needs at
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