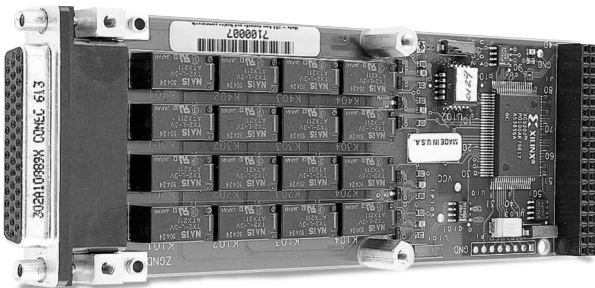


# Agilent E2270A 16-Channel Form A Switch M-Module

## Data Sheet

- Single wide, register based
- Use for general purpose switching
- 16 independent SPST latching relays
- FIFO for storing up to 8 relay operations



Agilent E2270A

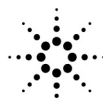
### Description

The Agilent E2270A 16-Channel Form A Switch is a **single-wide, register-based M-Module**. It furnishes 16 independent SPST latching relays for general purpose signal switching and control of external devices. Use this M-Module when you need high integrity contacts or quality connections of non-multiplexed signals in your system.

Logic on the card provides for maskable interrupts (INTC type) when the requested relay movements have been completed. The module also has a FIFO for storing up to eight 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.

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.



## Product Specifications

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### 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.

<b>DC:</b>	60 V/200 V (see note)
<b>AC rms:</b>	48 V/125 V (see note)
<b>AC peak:</b>	68 V/175 V (see note)

#### Maximum current (noninductive):

##### Per switch:

<b>DC:</b>	2 A
<b>AC peak:</b>	2 A

##### Per module:

<b>DC:</b>	8 A
<b>AC peak:</b>	8 A

#### Maximum power:

##### Per switch:

<b>DC:</b>	50 W
<b>AC:</b>	50 VA

##### Per module:

<b>DC:</b>	200 W
<b>AC:</b>	200 VA

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## DC

**Maximum thermal offset:** <3  $\mu$ V (typical)

#### Closed channel resistance:

**Initial:** <0.2  $\Omega$  (typical)

**End of life:** <2  $\Omega$

#### Insulation resistance (between any two points):

**$\leq 40$  °C,  $\leq 65$  % RH:** 10E8  $\Omega$  (typical)

**$\leq 40$  °C,  $\leq 95$  % RH:** n/a

**$\leq 25$  °C,  $\leq 40$  % RH:** 10E8  $\Omega$  (typical)

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## 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:

**Ch-to-ch:** <15 pF (typical)

**Ch-to-com:** <25 pF (typical)

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## General Characteristics

**Relays:** 16 latching relays

#### Typical relay life (number of operations):

**No load:** n/a

**Rated load:** 10E5

**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

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## 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 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](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 Form A Switch M-Module	E2270A
3 yr. Retn. to Agilent to 1 yr. OnSite Warr.	E2270A W01

## 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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