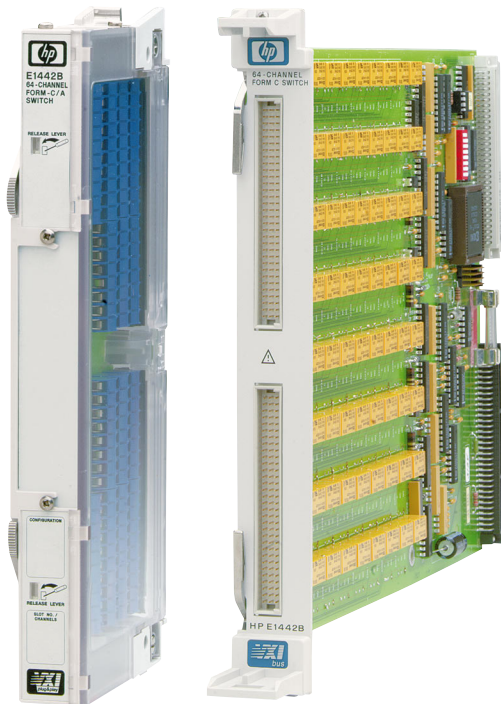

64-Channel Form C or Form A Switch HP E1442A

Technical Specifications

- Any combination of channels can be closed or opened
- Nonlatching armature relays
- External devices can be actuated
- Includes HP QUIC easy-to-use terminal block
- Internal buses simplify wiring



Description

The HP E1442A 64-Channel General-Purpose Switch is a **C-size, 1- slot, register-based VXI module** that contains nonlatching Form C type relays. They can be used for device actuation, as digital output modules, or to create flexible signal switching topologies.

Each product has two parts—a component card containing the relays, that plugs into the mainframe, and a removable terminal block that plugs onto the component card. The component card has 64 Form C relays with three independent axial component locations per relay. These locations can be used for jumpers, fuses, or pullup/down and protection resistors. All three relay terminals can be connected through such components to one of three internal buses.

The HP E1442A terminal block comes standard with solder lugs that allow full access to the Form C (SPDT) capability of the component module relays. Option 020 has a screw terminal block that allows access to the Form A (SPST) contacts only. Option 010 gives you complete Form C connectivity with more customization versatility.

Refer to the HP Website for instrument driver availability and downloading instructions.

Specifications

Input

Maximum voltage (C to NC or NO or any terminal-to-chassis):

DC:	150 V
AC rms:	150 V
AC peak:	210 V

Maximum current (noninductive, per switch):

DC:	1 A
AC rms:	1 A

Maximum power:

Per switch:

DC:	40 W
AC:	40 VA

Per module:

DC:	320 W
AC:	320 VA

DC

Maximum thermal offset:

70 μ V

Closed channel resistance:

Initial:	<1.5 Ω typical
End of life:	<3.5 Ω

Insulation resistance (between any two points):

$\leq 40^{\circ}\text{C}$, $\leq 65\%$ RH:	—
$\leq 40^{\circ}\text{C}$, $\leq 95\%$ RH:	>10E7 Ω
$\leq 25^{\circ}\text{C}$, $\leq 40\%$ RH:	>10E8 Ω

AC

Typical bandwidth

(–3 dB): 10MHz

Crosstalk (dB, channel-to-channel):

<10 kHz:	—
<100 kHz:	<–70
<1 MHz:	—
<10 MHz:	<–28

Closed channel capacitance:

Ch-to-ch:	<30 pF
Ch-to-com:	<40 pF

General

Typical relay life (number of operations):

No load:	>5x10E6
Rated load:	>10E5

Time to close or open a channel (register programming): 13 ms

Connector type, wire size:

Standard:	2 DIN-Cs; Opt 010: solder eyes
Screw:	≥ 18 AWG (1.2 mm), Opt 020

Power up/down states: All open, i.e., nonlatching

Terminal Block

Connection types:

Standard: Solder lug connectors

HP E1442A with Opt 020: (replaces standard terminal block) Screw terminals for Com and NO contacts only, 16 AWG (1.5mm) max.

HP E1442A with Opt 010: (replaces standard terminal block) Provision to add dual 96-pin DIN-C connectors or solder wires directly to terminal block pc board, 0.055 inch holes, 20 AWG max recommended.

VXI Characteristics

VXI device type:	Register-based, A16, slave only
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	None
VXI busses:	None
C-size compatibility:	n/a

Instrument Drivers

See the HP Website (http://www.hp.com/go/inst_drivers) for driver availability and downloading.

Command module firmware:	Downloadable
Command module firmware rev:	A.06
I-SCPI Win 3.1:	Yes
I-SCPI Series 700:	Yes
C-SCPI LynxOS:	Yes
C-SCPI Series 700:	Yes
HP VEE Drivers:	Yes
VXIplug&play Win Framework:	Yes
VXIplug&play Win95/NT Framework:	Yes
VXIplug&play HP-UX Framework:	No (not available at time of publication)

Module Current

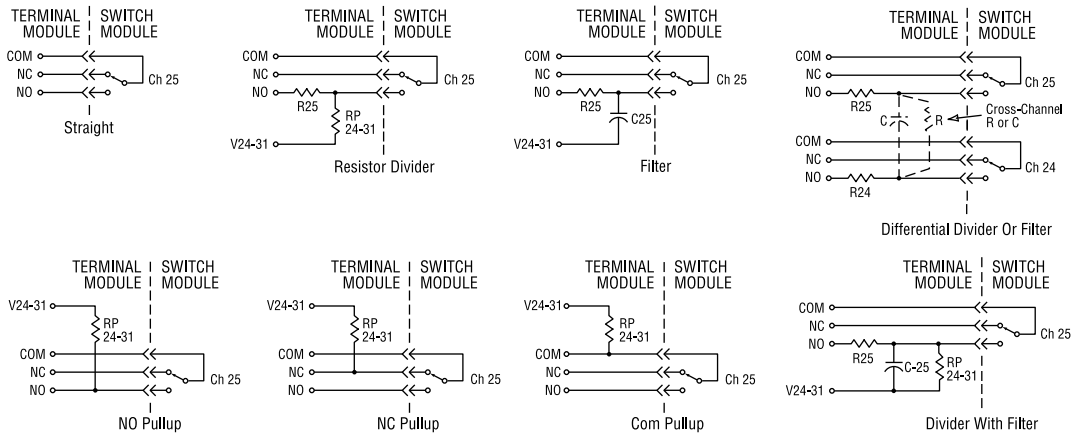
	I_{PM}	I_{DM}
+5 V:	0.1	0.11
+12 V:	0	0
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

Watts/slot:	5.00
ΔP mm H ₂ O:	0.15
Air Flow liter/s:	0.42

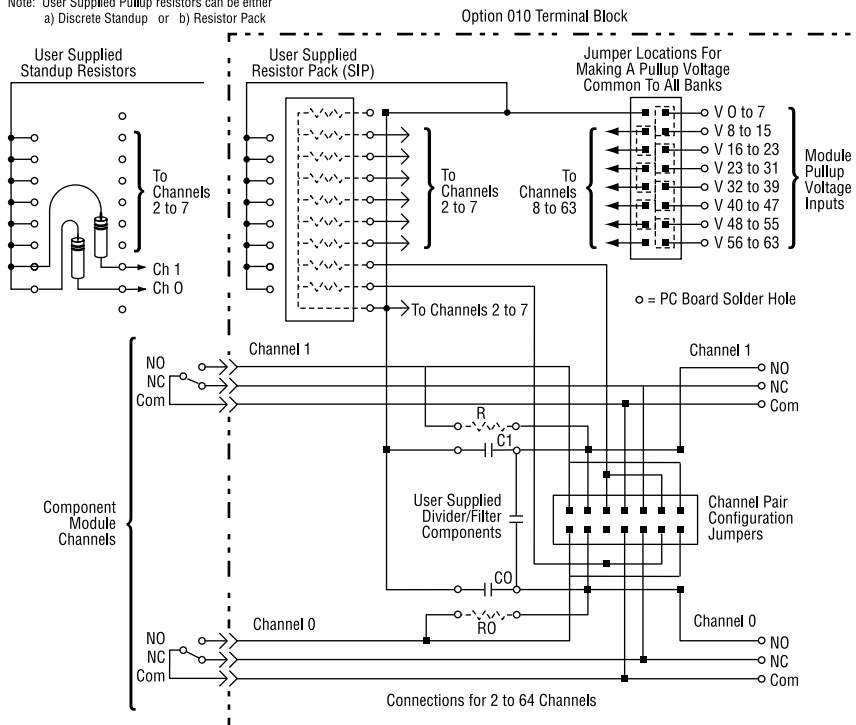
Ordering Information

Description	Product No.
64-channel Form C or Form A switch	HP E1442A
Pull up/pull down resistors	HP E1442A 010
Form A contacts (64) instead of Form C	HP E1442A 020
Service manual	HP E1442A 0B3
3 yr. rtn. to HP to 1 yr. OnSite warr.	HP E1442A W01

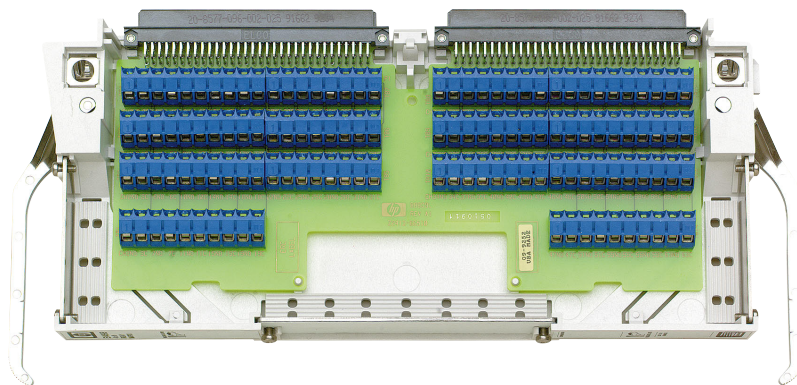


Option 010 Connection Examples

Note: User Supplied Pullup resistors can be either
a) Discrete Standup or b) Resistor Pack



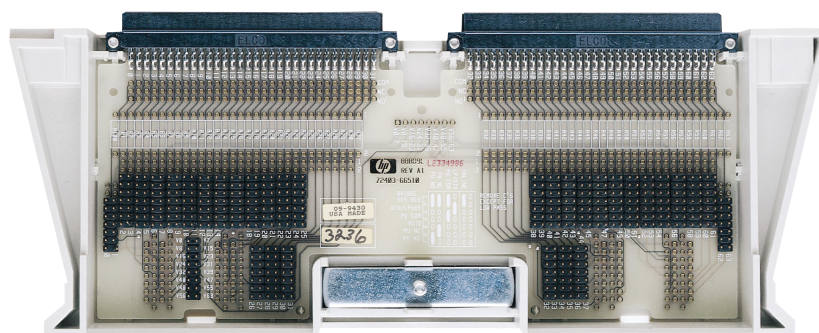
HP E1442A Option 010 Block Diagram



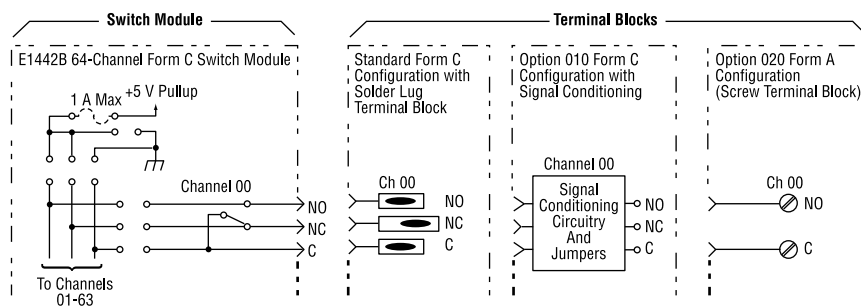
HP E1442A Option 020 Terminal Block: Form A Configuration with Screw Terminals



HP E1442A Standard Terminal Block: Form C Configuration with Solder Lugs (Photo of the new HP QUIC version of this terminal block not available)



HP E1442A Option 010 Terminal Block: Form C Configuration with Signal Conditioning and Screw Terminals (Photo of the new HP QUIC version of this terminal block not available)



HP E1442A Block Diagram

Data Subject to Change
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