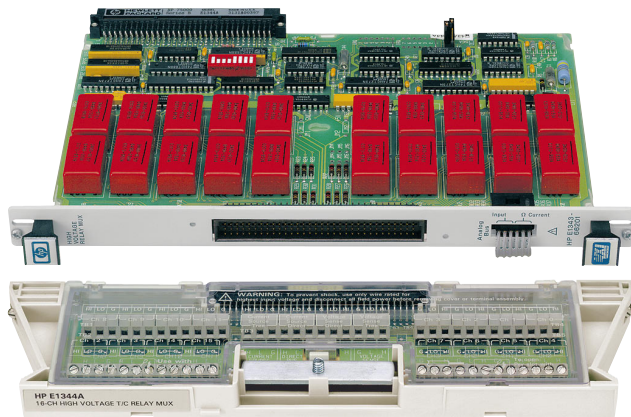

16-Ch T/C High Voltage Relay Multiplexer HP E1344A

Technical Specifications

- High-voltage measurements up to 250 V
- Built-in thermistor reference junction
- Channel scanning with HP DMMs
- 16-channel 3-wire or 8-channel 4-wire multiplexer



Description

The HP E1344A thermocouple compensated high-voltage reed relay multiplexer is a **B-size, 1-slot, register-based VXI module** that switches 16 channels of high, low, and guard each. The multiplexer module consists of a B-size component card (labeled E1343-66201) and a screw terminal block that plugs onto the component card. The HP E1344A is functionally similar to the HP E1343A.

Using the HP E1326B or HP E1411B DMMs, the HP E1344A performs channel scanning with automatic conversions for many thermocouple types. Temperature measurements are made with automatic cold junction compensation. SCPI commands are also used to set up measurements. The card, in conjunction with HP VXI DMMs, also measures voltage, current, and 2- and 4-wire resistance.

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

Configuration

One analog bus cable is shipped with each module, making it easy to connect multiplexer common outputs together for slot-adjacent modules. If you are using a B-size mainframe, HP E1300A or HP E1301A, use the analog bus cable shipped with the HP E1326B DMM to connect it to the multiplexer(s).

C-size Adapter

For installing the HP E1343A in a C-size mainframe, the HP E1403B active adapter is recommended.

Specifications

Input

DC:

Maximum voltage (any terminal to any other terminal or chassis): 250 Vdc

AC rms:

Maximum voltage (any terminal to any other terminal or chassis): 250 V rms

Maximum current (per channel common, non-inductive): 50 mA

Maximum power per channel: 1 VA

DC

Maximum thermal offset per channel, differential Hi-Lo: 10 μ V

Closed channel resistance: 100 Ohm $\pm$ 10%

Insulation resistance (between any two points): 10E9 Ohm

Insulation resistance (Hi to Lo, power off): n/a

AC

Minimum bandwidth (–3 dB, 50 Ohm source/load): 10 MHz (protection resistors shorted)

Crosstalk (channel-to-channel):

100 kHz: -80 dB

10 MHz: -40 dB

Both: n/a

Closed channel capacitance: <150 pF Hi-Lo, <150 pF Lo-Guard, <2000 pF Guard-Chassis

General Characteristics

Relays: Reed relays
Break-before-make
Relays open on power down
Relays open on power up

Minimum relay life:

No load: 10E8 operations

Rated load: 10E7 operations

Reference junction measurement accuracy (18 to 28 °C operating): n/a

Strain gage excitation: n/a

Screw terminal wire size: 16 to 26 AWG (1.5, 1.2, 0.9, 0.75, 0.5 mm)

Scanning rate: 350 channels/s typ.

VXI Characteristics

VXI device type: Register-based, A16, slave only
Size: B
Slots: 1
Connectors: P1
Shared memory: None
VXI busses: None
C-size compatibility: Requires E1403B

Instrument Drivers

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

Command module firmware: ROM
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

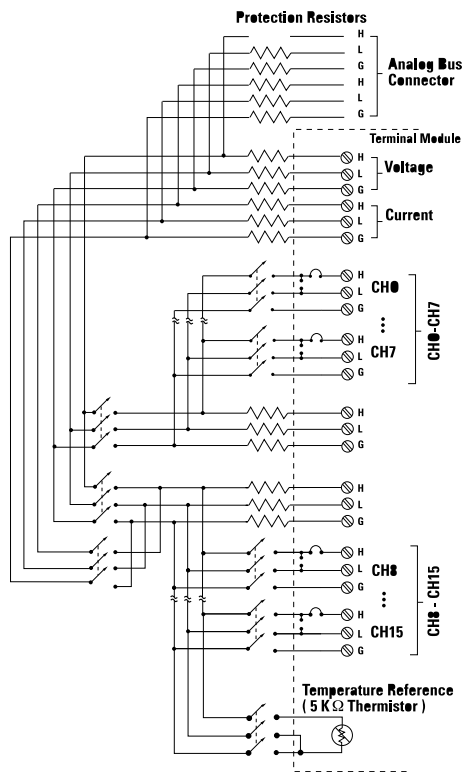
	I _{PM}	I _{DM}
+5 V:	0.2	0.01
+12 V:	0.13	0.01
–12 V:	0	0
+24 V:	0	0
–24 V:	0	0
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

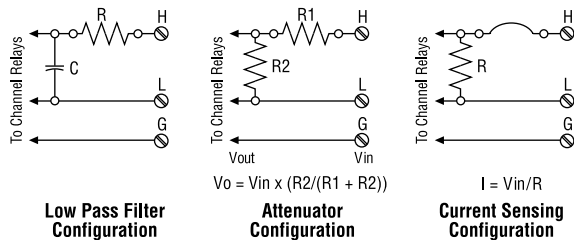
Watts/slot: 1.00
 Δ P mm H₂O: 0.02
Air Flow liter/s: 0.10

Ordering Information

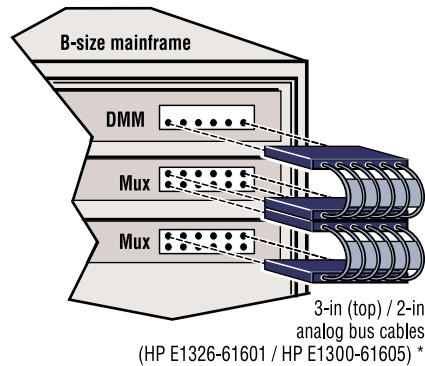
Description	Product No.
16-CHANNEL HIGH VOLTAGE RELAY MUX	HP E1344A
Service manual	HP E1344A 0B3
3 yr. retn. to HP to 1 yr. OnSite warr.	HP E1344A W01
E1344A SCREW TERMINAL MODULE	HP E1344-80001



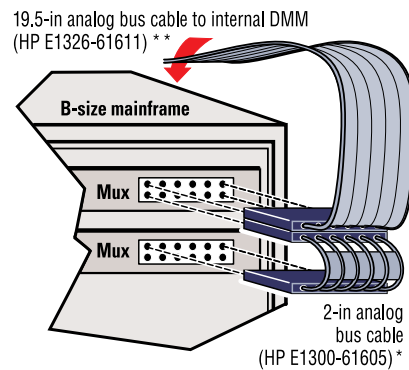
HP E1344A/HP E1347A Circuit Diagram



Signal Conditioning Components/Current Shunt



Analog bus cables for Mux-to-Mux and Mux-to-multimeter connections



* DMM-to-Mux and Mux-to-Mux analog bus cables are provided with the purchase of the DMM and Mux modules respectively.

** 19.5-in analog bus cable is provided with purchase of HP E1300/01A Series B mainframe with internal DMM option.

Analog bus cables for Mux-to-Mux and Mux-to-multimeter connections

Data Subject to Change
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HP Publication No.: 5965-5600E