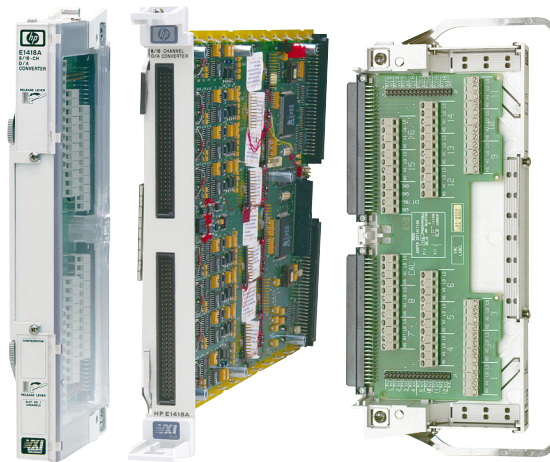

8/16-Channel D/A Converter HP E1418A

Technical Specifications

- **8/16 independent channels, flexible and configurable**
- **Individual isolation per channel**
- **16-bit resolution D/A per channel**
- **Programmable selectable voltage/current modes**
- **Software controlled calibration**



Description

The HP E1418A 8/16-Channel D/A Converter is a **C-size, 1-slot, register-based VXI module**. It consists of 8 or 16 fully independent, isolated or non-isolated, 16-bit D/As. Each channel can be set to voltage or current mode with local or remote sensing on voltage outputs. All outputs can be updated with register-level programming to allow fast backplane access. Each channel can be updated individually, or by using the internal data buffer, synchronized so that all channels change simultaneously. The channel output mode is set with jumpers in the terminal block for each channel or by register programming. Each D/A converter can be calibrated without removal through software commands and use of the terminal block CALBUS in conjunction with a 5.5-digit multimeter. The on/off terminal block has standard screw terminals for field wiring.

Refer to the HP Website directory of addresses (URLs) for instrument driver availability and downloading instructions.

Fast Updates

All outputs can be updated with register-level programming to allow fast backplane access. Rates are limited by controller speed and analog settling time. Each channel can be updated individually, or by using the internal data buffer, synchronized so that all channels change at the same time. The channel output mode is set with jumpers in the terminal block for each channel or by register programming.

In-place Calibration

Each D/A converter can be calibrated without removal through software commands and use of the terminal block CALBUS in conjunction with a 5.5-digit multimeter. In addition, a built-in self-test command provides a high level of confidence that the module is operating properly.

Choice of Connectors

The easy-to-use on/off terminal block, a feature of HP QUIC, has standard screw terminals for field wiring. Optional crimp and insert or ribbon cable connectors are available. Each channel contains a programmable output disconnect relay to open or close the channel.

Specifications

DC Voltage

Amplitude:	±16 V max.
Resolution:	16 bits (488 μ V steps) Monotonic to 2.0 mV
Amplitude accuracy (DC):	±(0.05% + 3.0 mV) (90 days)

DC Current

Range:	0 to ±20.00 mA
Resolution:	16 bit (610 nA steps) Monotonic to 25 μ A
Accuracy:	±(% value + amps) (calibrated; temperature within ±5 °C of calibration temperature and same load as at calibration)
90-day:	±(0.09% + 5.0 mA)
Output voltage:	
Compliance voltage:	±12 V
Max open circuit voltage:	<18 V
Output current:	
Compliance current:	>20 mA @ 0 to ±12 V derated linearly to 5 mA @ ±16 mV
Short circuit current:	<40 mA
Differential ripple and noise:	<2 μ A rms (20 Hz - 250 kHz, into 250 Ω load)

AC Output

Sample rate:	1 kSa/s
Modulation:	No
Sweep:	No
Amplitude accuracy (AC):	not specified
Standard waveforms:	No
Arbitrary waveform function:	No

General Characteristics

Settling time:	300 μ s (+ full scale to – full scale step, single channel, to rated accuracy)
Isolation:	42 Vdc/ac peak (channel-to-chassis or channel-to-channel)
Synchronization:	Software commands, external trigger inputs, or TTL backplane trigger lines provide a choice of synchronizing event. Each individual channel can be updated by software command or all channels can be updated at the same time based upon a software or hardware trigger.

VXI Characteristics

VXI device type:	Register-based
Data transfer bus:	A16 or A24, D16
Size:	C
Slots:	1
Connectors:	P1/2
Shared memory:	n/a
VXI busses:	n/a
C-size compatibility:	Yes

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.08
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:	0.7	0.01
+12 V:	0.04	0.01
–12 V:	0	0
+24 V:	0.44	0.01
–24 V:	0.44	0.01
–5.2 V:	0	0
–2 V:	0	0

Cooling/Slot

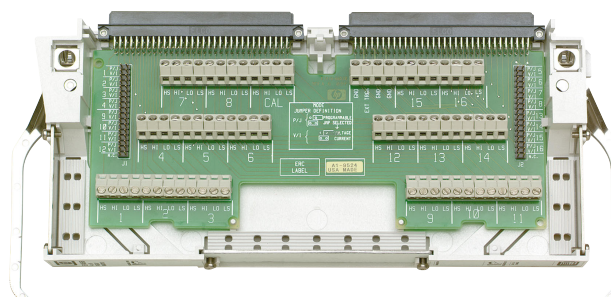
Watts/slot:	25.4
ΔP mm H ₂ O:	0.10
Air Flow liter/s:	2.00

Ordering Information

Description	Product No.
8/16-Channel D/A Converter	HP E1418A
16-Channel D/A Converter, non-isolated	HP E1418A 001
8 Chnl D/A Converter, Isolated Channels	HP E1418A 002
16 Chnl D/A Converter, Isolated Channels	HP E1418A 003
Crimp/insert connectors	HP E1418A A3E
Ribbon cable connectors	HP E1418A A3H
3 yr retn. to HP to 1 yr. OnSite warr.	HP E1418A W01
1 Channel Isolation Plug-on for E1418A	HP E1523A
8 Non-isolated Ch. Expan Kit for E1418A	HP E1524A
8 Isolated Channel Expan Kit for E1418A	HP E1525A



HP E1418A Terminal Block



Data Subject to Change
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HP Publication No.: 5965-5534E