

# PEX-H3525 PCI Express Interface Modules Analog I/O

## Base Specifications

Model type	PEX-H3525
Bus requirements	PCI Express™ Base Specification Rev. 1.0a x1
Number of slots	1 slot
Number of I/O ports	64 x 2 ports
Data transfer method	I/O transfer (I/O mapped I/O), DMA transfer
Dimensions	165.00 (D) x 106.65 (H) [mm]
Weight	145g
Power consumption	+3.3 Vdc (+/-9%): 0.4A (typ.) +12 Vdc (+/-8%): 0.4A (typ.)
Environmental conditions	Operating temperature: 0 deg C to 50 deg C Relative humidity: 20% to 90% (non-condensing)
Connectors	CN1 through CN3: BNC connector (Black) (50Ω) CN4: BNC connector (White) (50Ω)
On-board connector	CN1 through CN3: 5227161-9 (TE Connectivity Ltd.) or equivalent CN4: 5227161-7 (TE Connectivity Ltd.) or equivalent
Isolation	No isolation
Interrupt sources	10 sources (analog trigger, DMA event, end of analog output update, external interrupt, end of sampling, FIFO event, full-scale range, interval timer, start of analog output, start of sampling)
MTBF	158729hrs.
External Signals	EXINT IN (External interrupt input) x 1 EXTRG IN (External trigger input) x 1 EXTRG OUT (External trigger output) x 1 EXCLK IN (External sampling pacer clock input) x 1 EXCLK OUT (External sampling pacer clock output) x 1 ATRG OUT (Trigger pulse output) x 1 EXSMP1 OUT, EXSMP2 OUT (External sampling status output) x 2 IN1, IN2 (Digital Input) x 2 OUT1, OUT2 (Digital output) x 2

## Analog Input Specifications

Model type	PEX-H3525
Number of channels	Single-ended input: 2
Input range	Bipolar: +/-1 V, +/-2.5 V, +/-5 V Unipolar: 0 V to +1 V, 0 V to +2.5 V, 0 V to +5 V
Resolution	12 bits
Maximum sampling rate	Normal clock mode: 10 mega-samples/s Double-clocked mode: 20 mega-samples/s
Conversion time	Normal clock mode: 100 ns Double-clocked mode: 50 ns
AD converter	AD9220A (Analog Devices, Inc.) or equivalent
Relative accuracy	Normal clock mode: +/-3 LSB (max.) (25 °C) Double-clocked mode: +/-6 LSB (max.) (25 °C)
Error	Normal clock mode: +/-0.5% (max.) (0 °C to 50 °C) Double-clocked mode: +/-0.75% (max.) (0 °C to 50 °C)
Input impedance	10 MΩ (typ.) 50 Ω (terminator on)
Input protection voltage	+/- 25 V (terminator off) +/- 2.5 V (terminator on)

**Analog Output Specifications**

Model type	PEX-H3525
Number of channels	1 channel
Output configurations	Load impedance: 2 k $\Omega$ (min.), 450 pF (max.)
Output range	Bipolar: +/-5 V Unipolar: 0 V to +5 V
Output impedance	1 $\Omega$ (typ.)
Output protection	Protection against short-circuit to -15 V, +15 V, and ground for analog output channel
Resolution	12 bits
DA converter	AD5551B or equivalent
Relative accuracy	+/-1 LSB (max.) (25 °C)
Error	+/-0.4% (max.) (0 °C to 50 °C)
Offset error	+/-4 LSB (typ.)
Gain error	+/-7 LSB (typ.)
Settling time	10 $\mu$ s
FIFO	128 sample-depth



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