

PCIe/PXIe-5710 Series

Family of Analog Output Modules



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Overview

The PCIe/PXIe-5710 Series is a family of Analog Output function modules, which can run on PCIe, PXIe, TXI (Thunderbolt) and USB buses (coming soon). Depending on the model number, a 5710 series provide different AO channels, sampling rate.

JYTEK PCIe/PXIe-5711 is a 32 channels analog output module with 16 bits resolution. PCIe/PXIe-5711 has an output range of ± 10 V with maximum update rate to 2 MS/s. It also provides output current drive in the range of ± 10 mA.

Main Features

- 32 channels of voltage output
- 16 bits DAC
- Output range: ± 10 V
- Maximum update rate

1 channel.....	2 MS/s
8 channels (1 channel per bank).....	2 MS/s
32 channels.....	1 MS/s
- Output current drive: ± 10 mA
- Overdrive current: 15 mA
- 256M samples FIFO buffer size
- DMA for data transfers

Hardware Specifications

Analog Output Specifications

Number of channels	32 ch
Resolution	16 bits
DNL	±1 LSB
Unscaled data format	Signed integer (-32768 to 32767)
Monotonicity	16 bits
Clock	200 MHz
Maximum update rate	
1 channel	2 MS/s
8 channels (1 channel per bank)*	2 MS/s
32 channels	1 MS/s
Output range	±10 V
Output coupling	DC
Output impedance	0.2 Ω
Output current drive	±10 mA
Overdrive protection	±15 V
Overdrive current	15 mA
Power-on state	±200 mV
FIFO buffer size	256M Samples
Data transfers	DMA
AO waveform modes	Nonperiodic waveform, Periodic waveform regeneration mode from onboard FIFO, Periodic waveform regeneration from host buffer including dynamic update
Ready time	2 μs
Slew rate	20 V/μs
Noise	400 μVrms, DC to 1 MHz
AO update glitch Glitch energy	5 nVs
Channel crosstalk	-65 dB
Reference clock	PXIe_DSTARA, PXIe_DSTARB, PXIe_CLK100
External sample clock	PFI, PXI_TRIG
Trigger source	Digital, Software
Trigger type	Start Trigger
Digital trigger source	PFI, PXI_TRIG
* Each bank consists of four AO channels using two DACs. Any channels being used within a single bank will update simultaneously.	

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AO Absolute Accuracy

Nominal Range Full Scale (V)	Absolute Accuracy at Full Scale(μV)
±10	2520

Digital IO Specifications

Static Characteristics

Number of channels	3 DIO
Ground reference	DGND
Direction control	Each terminal individually programmable as input or output
Pull-down resistor	50 k Ω typical
Input voltage protection	± 15 V

PFI Specifications

Number of channels	3
External digital trigger interface	Trigger voltage 3.3 V TTL; Trigger edge: Rising/Falling
Initial state	Input

Power Requirements

3.3 V:	3.0 W
+12 V:	14.0 W

Physical and Environment

Operating Environment

Ambient temperature range	0 °C to 50 °C
Relative humidity range	20% to 80%, noncondensing

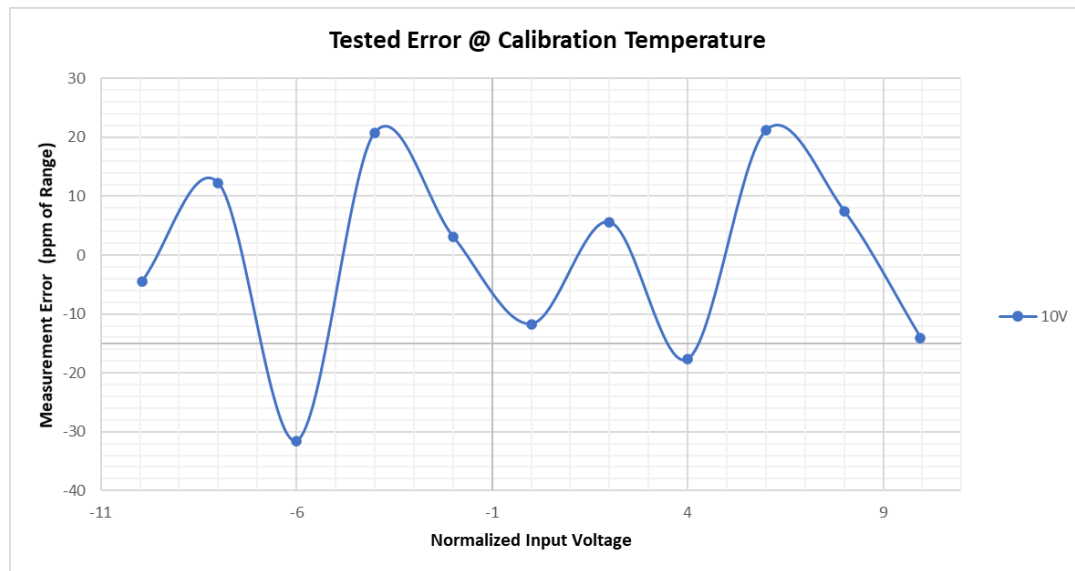
Storage Environment

Ambient temperature range	-20 °C to 80 °C
Relative humidity range	10% to 90%, noncondensing

Performance and Tests

AO Accuracy

Measurement Conditions*	Total Gain Error	Total Offset Error	Absolute Accuracy*(μV)
Calibrated, max ($23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)	108 ppm	144 ppm	2520
*Measurement Conditions: Range equals 10V.			
*Absolute Accuracy: Reading value equals 10V.			



Crosstalk

Reference Channel	Tested Channel	Crosstalk (dB at 100 KHz)
0	1	-71.8
0	15	-71.4
0	16	-70.4
1	2	-71.8
6	7	-71.4
6	22	-70.9
10	11	-72.1
16	17	-67.2
31	30	-71.6

Order Information

- PXIe-5711 (PN: JY5711001-01)
32-ch, 2MS/s/ch, 16-bit PXIe Analog Output Module
- PCIe-5711 (PN: JY5711001-02)
32-ch, 2MS/s/ch, 16-bit PCIe Analog Output Module

Accessories

- DIN-68S-01(PN: JA9114029-01)
SCSI 68-pin Terminal board
- TB-68(PN: JY2000068-03)
68-Pin SCSI Shielded I/O Connector Block
- ACL-2016868-1(PN: JY2016868-01)
1M 68pin VHDCI 68M-SCSI68M 100 Ω shielded cable
- ACL-2016868-2(PN: JY2016868-02)
2M 68pin VHDCI 68M-SCSI68M 100 Ω shielded cable

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