

PCIE-1824/L 16-bit, 32/16-ch Analog Output PCI Express Card Startup Manual

Packing List

Before card installation, please ensure that the following items are included in your shipment:

- 1 x PCIE-1824 card
- 1 x Startup manual

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

User Manual

For more detailed information regarding this product, please download the PCIE-1824 user manual from the Advantech website.

Declaration of Conformity

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. In such cases, users are required to correct the interference at their own expense.

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend using shielded cables. Such cables are available from Advantech. Please contact your local supplier for ordering information.

For more information about this or other Advantech products, please visit our website at

<http://www.advantech.com>

For technical support services, please visit our support website at

<http://support.advantech.com>

This manual is for PCIE-1824.

Part No. 2041182400

Edition 1
November 2019

Specifications

Analog Output

Channels	32 16 (PCIE-1824L)
Resolution	16 bits
Output configuration	Single-ended
Output range	± 10 V, 0 ~ 20 mA, 4 ~ 20 mA (sink)
Voltage output error	Offset < ± 1 mV Gain < ± 0.01 % of FSR
Current output error	Offset < ± 2.5 μ A Gain < ± 0.05 % of FSR
Voltage output Load	>1 k Ω
Current output external power	< 30 V (Internal resistor 500 Ω)
Voltage output noise	0.2 mV _{RMS}
Slew rate	0.7 V/ μ s
Settling time	100 μ s (to ± 0.01 % of FSR)
Auto-calibration	Yes
+5 V for external use	< 200 mA
+12 V for external use	< 100 mA

General

I/O Connector Type	DB62 female connector	
Dimensions	167.7 x 100 mm (6.6 x 3.9 in)	
Power Consumption	Typical	3.3V @350mA , 12V @350mA
	Max	3.3V@ 370mA , 12V @ 1000mA
Temperature	Operating	0 ~ 60 °C (32 ~ 158 °F)
	Storage	-40 ~ 70 °C (-40 ~ 185 °F)
Relative Humidity	Operating	5 ~ 85% RH non-condensing
	Storage	5 ~ 95% RH non-condensing
Form Factor	PCI Express x1	

Board ID Switch

PCIE-1824 is equipped with a built-in DIP switch (SW1) for defining the board ID of each module. When multiple cards are installed on the same chassis, the board ID switch can be used to identify the device number of each card.

SW1	Position 1	Position 2	Position 3	Position 4
Board ID	ID3	ID2	ID1	ID0
15	OFF	OFF	OFF	OFF
14	OFF	OFF	OFF	ON
13	OFF	OFF	ON	OFF
:	:	:	:	:
1	ON	ON	ON	OFF
0*	ON	ON	ON	ON

* The default setting is 0.

Installation

Software Installation

PCIE-1824 is a high-density multiple channel analog PCIE card. The product's user manual, drivers, and programming SDK are available on the Advantech website, and can be accessed using the link below. Simply search the product name "PCIE-1824".

<http://support.advantech.com.tw>

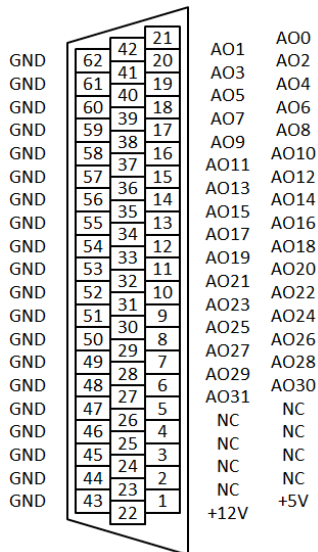
Hardware Installation

After the device driver is installed, you can now install the PCIE-1824 card in your computer.

Please follow the steps below to install the PCIE-1824 card.

1. Touch any metal part of your computer to neutralize the static electricity that may be in your body.
2. Plug the card into a PCI Express slot. Do not use excessive force to avoid damaging the card.

Pin Assignments



Pin Assignments (Cont.)

Pin Name	Type	Pin#	Description
Analog Output			
AO0	O	21	Analog output channel 0
AO1	O	42	Analog output channel 1
AO2	O	20	Analog output channel 2
AO3	O	41	Analog output channel 3
AO4	O	19	Analog output channel 4
AO5	O	40	Analog output channel 5
AO6	O	18	Analog output channel 6
AO7	O	39	Analog output channel 7
AO8	O	17	Analog output channel 8
AO9	O	38	Analog output channel 9
AO10	O	16	Analog output channel 10
AO11	O	37	Analog output channel 11
AO12	O	15	Analog output channel 12
AO13	O	36	Analog output channel 13
AO14	O	14	Analog output channel 14
AO15	O	35	Analog output channel 15
AO16	O	13	Analog output channel 16
AO17	O	34	Analog output channel 17
AO18	O	12	Analog output channel 18
AO19	O	33	Analog output channel 19
AO20	O	11	Analog output channel 20
AO21	O	32	Analog output channel 21
AO22	O	10	Analog output channel 22
AO23	O	31	Analog output channel 23
AO24	O	9	Analog output channel 24
AO25	O	30	Analog output channel 25
AO26	O	8	Analog output channel 26
AO27	O	29	Analog output channel 27
AO28	O	7	Analog output channel 28
AO29	O	28	Analog output channel 29
AO30	O	6	Analog output channel 30
AO31	O	27	Analog output channel 31
Power and Ground			
+12V	-	22	+12 V power supply for external use
+5V	-	1	+5 V power supply for external use
GND	-	43 ~ 63	Ground
Others			
NC	-	2 ~ 5, 23 ~ 26	No connect.