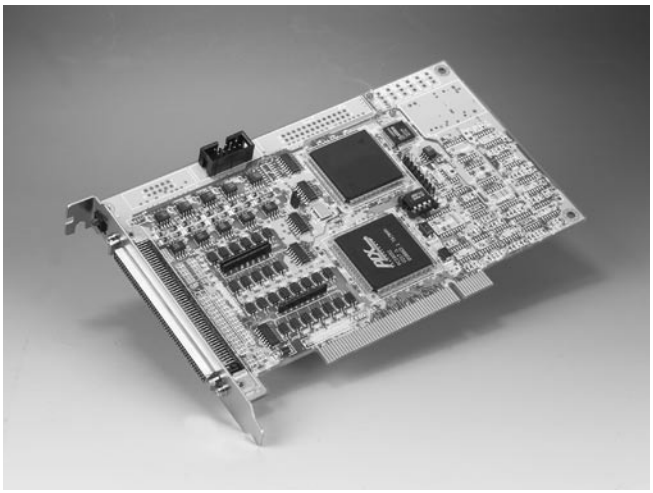
PCI-1261

6-Axis Pulse-Type Stepping Motion Control Card



FCC CE

Features

- PCI bus interface
- Asynchronous/synchronous 6-axis motion control
- Linear, helical interpolation functions
- 2/3-axis arc, circle interpolation functions
- Jog functions
- Continuous interpolation functions
- T/S-curve acceleration/decelerations
- Constant speed and over speed control
- In position and compensation functions
- Go home functions
- Position management and software limit switch functions
- Event trigger functions
- 19 dedicated inputs and 7 dedicated outputs
- Up to 4 MPPS pulse output for each axis

Introduction

The PCI-1261 realizes 6-axis asynchronous/synchronous control with a DDA (Digital Differential Analyzer) that ensures even movement of each axis. At pulse output control, it can also read back motor encoder values via its encoder input port. In the control of each axis, there is a set of sensor input points, including home points, plus limit points and minus limit points. Further, there are servo-on signal output points, position ready output point and an emergency stop input point. For advanced applications, we supply Windows® DLL drivers and user-friendly examples to decrease your programming load. Moreover, through a free bundled PCI-1261 motion utility, you can complete configuration and diagnosis easily.

Specifications

Motion Axis

Number of Axes	6 Axes	
Interpolation	Range	-2, 147, 483, 648 ~ 2, 147, 483, 647 for each axis
	Time Interval	1 ms ~ 10 ms
	Speed	1 PPS ~ 4 MPPS
Motion Functions	Command Type	Jog, Point to Point, Line, Arc, Circle, Helical
	Speed Curve	T/S-Curve Acceleration/Deceleration
	Command Mode	Position Command
	Pulse Output Format	Pulse/Direction, CW/CCW, A/B Phase
	Position Accuracy	In Position Check
	Continuous Moving	Blending Mode
	Compensation	256 Divisions
	Over Traveling Limit	Software and Hardware OT Check
	Go Home	3 Modes (Normal, Encoder Index, Home Sensor)
	Motion Operation	Hold, Continuous, Abort
	Changing Speed in Moving	Over Speed Control
Encoder Interface	Encoder Pulse Input Type	A/B/Z Phase, Pulse/Direction, CW/CCW
	Counts per Encoder Cycle	X0, X1, X2, X4 (A/B phase only)
	Latch	15 Trigger Signals for each axis
	Interface	Differential with Photo Coupler
	Max. Input Frequency	2 MHz
	Input	6 Channels
Position Counter	Range of Command Position Counter	-2, 147, 483, 648 ~ 2, 147, 483, 647 for each axis
	Range of Actual Position Counter	-2, 147, 483, 648 ~ 2, 147, 483, 647 for each axis
Comparison Register	Register Range	-2, 147, 483, 648 ~ 2, 147, 483, 647
Interrupt Functions (Trigger User-Defined Functions)	Interrupt Signal (All signals could be enabled/ disabled individually)	Local IO Input
		Encoder Index
		Encoder Comparison
Local IO (on board)	Home Sensor Signal	6 Inputs
	Plus Over Traveling Signal Input	6 Inputs
	Minus Over Traveling Signal Input	6 Inputs
	Inhibit Signal	6 Outputs
	Emergency Stop	1 Input
	Position Ready	1 Output

General

I/O Connector Type	Motion connector 100-pin SCSI-II Female	
Dimensions	175 x 107 mm	
Power Consumption	Typical	+5 V @ 850 mA; +12 V @ 400 mA
	Max.	+5 V @ 1 A; +12 V @ 600 m
External Power Voltage	+12 V ~ +24 V	
Temperature	Operating	-10 ~ 60° C
	Storage	-20 ~ 85° C

Ordering Information

- **PCI-1261** 6-axis Pulse-type Stepping Motion Control Card
- **ADAM-39100** 100-pin SCSI-II Wiring Terminal for DIN-rail Mounting
- **PCL-101100M-1** 100-pin SCSI cable, 1m
- **PCL-101100M-3** 100-pin SCSI cable, 3m
- **ADAM-3961** Wiring terminal for PCI-1261 with LED

Applications

- General Motion Control (GMC)
- Packing and assembly machinery
- Robotics and semiconductor manufacturing and measurement
- Precise X-Y-Z-U-V-W position and rotation control

Feature Details

Programmable T/S-curve Acceleration and Deceleration

Each axis can be individually configured with S-curve or trapezoidal acceleration/deceleration rates. When using S-curve acceleration to control motion speed, output pulse is generated in parabolic-shaped acceleration or deceleration curves.

Linear and Circular Interpolation

Any two or three axes can be selected to execute linear or circular arc interpolation control. The interpolation speed range is from 1PPS to 4 MPPS.

Powerful Position Management Function

Each axis is equipped with a 32-bit logical position counter and a 32-bit real position counter. The logical position counter counts the axis pulse output number and the real position counter is recorded with the feedback pulse from the outside encoder or linear scale.

SCSI II 100 PIN

AGND	1	51	AGND
NC	2	52	NC
NC	3	53	NC
NC	4	54	NC
VCC_OUT(+5V)	5	55	LDI_COM -
LDO_COM+	6	56	LDI_COM -
LDI_COM	7	57	E_STOP
LDI_COM	8	58	P_RDY
HOME_I1	9	59	HOME_I2
OT+_I1	10	60	OP+_I2
OT-_I1	11	61	OT -_I2
INH_O1	12	62	INH_O2
HOME_I3	13	63	HOME_I4
OT+_I3	14	64	OT+_I4
OT-_I3	15	65	OT -_I4
I NH_O3	16	66	INH_O4
HOME_I5	17	67	HOME_I6
OT+_I5	18	68	OT+_I6
OT-_I5	19	69	OT -_I6
INH_O5	20	70	INH_O6
XENC_INA1	21	71	XENC_INA2
~XENC_INA1	22	72	~XENC_INA2
XENC_INB1	23	73	XENC_INB2
~XENC_INB1	24	74	~XENC_INB2
XENC_INC1	25	75	XENC_INC2
~XENC_INC1	26	76	~XENC_INC2
XENC_INA3	27	77	XENC_INA4
~XENC_INA3	28	78	~XENC_INA4
XENC_INB3	29	79	XENC_INB4
~XENC_INB3	30	80	~XENC_INB4
XENC_INC3	31	81	XENC_INC4
~XENC_INC3	32	82	~XENC_INC4
XENC_INA5	33	83	XENC_INA6
XENC_INA5	34	84	~XENC_INA6
XENC_INB5	35	85	XENC_INB6
~XENC_INB5	36	86	~XENC_INB6
XENC_INC5	37	87	XENC_INC6
~XENC_INC5	38	88	~XENC_INC6
XDDA_OUTA1	39	89	XDDA_OUTA2
~XDDA_OUTA1	40	90	~XDDA_OUTA2
XDDA_OUTB1	41	91	XDDA_OUTB2
~XDDA_OUTB1	42	92	~XDDA_OUTB2
XDDA_OUTA3	43	93	XDDA_OUTA4
~XDDA_OUTA3	44	94	~XDDA_OUTA4
XDDA_OUTB3	45	95	XDDA_OUTB4
~XDDA_OUTB3	46	96	~XDDA_OUTB4
XDDA_OUTA5	47	97	XDDA_OUTA6
~XDDA_OUTA5	48	98	~XDDA_OUTA6
XDDA_OUTB5	49	99	XDDA_OUTB6
~XDDA_OUTB5	50	100	~XDDA_OUTB6