

PCI-8102

Advanced 2-axis Servo & Stepper Motion Controller



Features

- 32-bit PCI bus, Rev. 2.2, 33 MHz
- Pulse output rates up to 6.55 MHz
- Pulse output options: OUT/DIR, CW/CCW
- 2 axes linear/circular interpolation
- Continuous interpolation
- Position/Speed change override
- 13 home return modes and auto home search
- Hardware position compare
- High-speed position latch function
- Programmable acceleration and deceleration time
- Trapezoidal and S-curve velocity profiles
- Multi-axis, simultaneous start/stop
- Programmable interrupt sources
- Supports up to 12 cards in one system
- Hardware backlash compensator
- Software limit function
- On-board GPIO: 16IN/16OUT (P2 connector)
- Card index switch setting
- Hardware emergency input
- Security protection for user's program
- Easy interface to any stepping motors, AC or DC servo, linear or rotary motors which have pulse train input mode
- All digital inputs and outputs are 2500 Vrms isolated
- Manual pulser input interface
- More than 100 thread safe API functions

Software Support

- **Windows® Platform**
 - Available for Windows 7/Vista (32-bit)/XP/2000
 - Recommended programming environments: VB/VC++/BCB/Delphi
 - Various sample programs with source codes
 - Customized API functions are possible

- **Linux Platform**

- Redhat 9, kernel 2.4.x
- Fedora Core 5, kernel 2.6.15
- Fedora Core 3, kernel 2.6.9
- Fedora Core 4, kernel 2.6.11

- **MotionCreatorPro™**

MotionCreatorPro™ assists motion system developers in debugging any cabling problems and resolving complex system configuration before programming.

Specifications

Pulse Type Motion Control

■ Number of Axes	2
■ Pulse Output Rate	0.01 pps to 6.5 Mpps
■ Max. Acceleration Rate	245 Mpps ²
■ Speed Resolution	16-bit
■ Encoder Input Rate	6.55 MHz under 4 x AB phase @ 1 M cable
■ Encoder Counter Resolution	28-bit
■ Positioning Range	-134,217,728 to +134,217,727 pulses (28-bit)
■ Counters	x 4 for each axis
■ Comparators	x 5 for each axis

Motion Interface I/O Signals

■ Position Latch Input Pin	LTC
■ Position Compare Output Pin	CMP
■ I/O Pin	Differential and 2500 Vrms optically isolated
■ Incremental Encoder Signals Input Pin	EA and EB
■ Encoder Index Signal Input	EZ
■ Mechanical Limit Switch Signal Input Pin	±EL, SD, and ORG
■ Servomotor Interface I/O Pin	INP, ALM, ERC, RDY, SVON
■ General DO Pin	x 16 (P2 connector)
■ General DI Pin	x 16 (P2 connector)
■ Pulser Signal Input	PA and PB
■ Simultaneous Start/Stop Signal I/O Pin	STA and STP

Ordering Information

■ PCI-8102

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Accessories

For more information on terminal boards & cables, please refer to page 6-29.

Terminal Boards

- **DIN-68S-01**
Terminal board with 68-pin SCSI-II connector with DIN socket
- **DIN-68M-J3A0**
Terminal board for Mitsubishi MR-J3S-A servo amplifier with 68-pin SCSI-II connector
- **DIN-68M-J2A0**
Terminal board for Mitsubishi MR-J2S-A servo amplifier with 68-pin SCSI-II connector
- **DIN-68Y-SG110**
Terminal board for Yaskawa Sigma II/III/V servo amplifiers with 68-pin SCSI-II connector
- **DIN-68P-A40**
Terminal board for Panasonic MINAS A4 servo amplifier with 68-pin SCSI-II connector

Cabling

- **ACL-10568-1**
68-pin SCSI-VHDCI cable (mating with AMP-787082-7), 1 M

Pin Assignment

68-pin SCSI type Connector

VPP	1	35	VPP	
EXGND	2	36	EXGND	
OUT0+	3	37	OUT1+	
OUT0-	4	38	OUT1-	
DIR0+	5	39	DIR1+	
DIR0-	6	40	DIR1-	
SVON0	41	7	41	SVON1
ERC0	8	42	ERC1	
ALM0	9	43	ALM1	
INP0	10	44	INP1	
RDY0	11	45	RDY1	
EA0+	12	46	EA1+	
EA0-	13	47	EA1-	
EB0+	14	48	EB1+	
EB0-	15	49	EB1-	
EZ0+	16	50	EZ1+	
EZ0-	17	51	EZ1-	
VPP	18	52	VPP	
N/C	19	53	N/C	
PEL0	20	54	PEL1	
MEL0	21	55	MEL1	
EXGND	22	56	EXGND	
LTC/SD/PCSO/CLR0	23	57	LTC/SD/PCS1/CLR1	
ORG0	24	58	ORG1	
N/C	25	59	EXGND	
PA+_ISO	26	60	EMG	
PA-_ISO	27	61	DIN0	
PB+_ISO	28	62	DIN1	
PB-_ISO	29	63	DIN2	
CMP0	30	64	DIN3	
CMP1	31	65	DOUT0	
EXGND	32	66	DOUT1	
EXGND	33	67	EXGND	
EX+24V	34	68	EX+24V	