PCI-8164 / PXI-8164

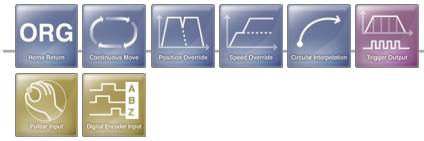
Advanced 4-axis Servo & Stepper Motion Controllers with High-Speed Triggering



PCI-8164



PXI-8164



Features

- **32-bit PCI/PXI bus, Rev. 2.2, 33 MHz**
- **Pulse output rates up to 6.55 MHz**
- **Pulse output options: OUT/DIR, CW/CCW, AB Phase**
- **2 to 4 axes linear interpolation**
- **2 axes circular interpolation**
- **Multi-axis continuous interpolation**
- **Position/Speed change override**
- **13 home return modes and auto home search**
- **Hardware position compare and trigger with auto-loading FIFO as a buffer**
- **High-speed position latch function**
- **Programmable acceleration and deceleration time**
- **Trapezoidal and S-curve velocity profiles**
- **28-bit up/down counter for incremental encoder**
- **Multi-axis, simultaneous start/stop**
- **Programmable interrupt sources**
- **Supports up to 12 cards in one system**
- **Hardware backlash compensator**
- **Softwares limit function**
- **Easy interface to any stepping motors, AC or DC servo, linear or rotary motors**
- **All digital inputs and outputs are 2500 VRMS isolated**
- **Manual pulser input interface**
- **More than 250 thread safe API functions**

Software Support

OS Information

- Windows® 8/7/XP

Software Compatibility

- VB/VC++/BCB/Delphi/VB.NET
- Various sample programs with source codes

Software Recommendations

- MotionCreatorPro

Specifications

Pulse Type Motion Control	
Number of Axes	4
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 (15 kHz for continuous triggering)
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	SVON
General DI Pin	RDY
Pulser Signal Input	PA and PB
Simultaneous Start/Stop Signal I/O Pin	STA and STP

Ordering Information

PCI-8164
Advanced PCI 4-axis servo & stepper motion controller with high-speed triggering

PXI-8164
Advanced PXI 4-axis servo & stepper motion controller with high-speed triggering

Accessories

For more information on terminal boards & cables, please refer to page 6-31.

Terminal Boards

DIN-100S-01
Terminal board with one 100-pin SCSI-II connector and DIN-rail mounting

DIN-814-GP
Terminal board with 100-pin SCSI-II connector for general purpose

DIN-814M0
Terminal board for Mitsubishi MR-J2S-A servo amplifier

DIN-814M -J3A0
Terminal board for Mitsubishi MR-J3A/J4A servo amplifiers

DIN-814Y0
Terminal board for Yaskawa Sigma V amplifier

DIN-814P-A40
Terminal board for Panasonic MINAS A4/A5 servo amplifiers with 100-pin SCSI-II connector

Cabling

ACL-102100-1
100-pin SCSI-II cable (mating with AMP-787082-9), 1 M

Pin Assignment

PCI-8164/PXI-8164 Pin Assignment of the 100-pin SCSI-type Connector

VPP	1	51	VPP
EGND	2	52	EGND
OUT1+	3	53	OUT3+
OUT1-	4	54	OUT3-
DIR1+	5	55	DIR3+
DIR1-	6	56	DIR3-
SVON1	7	57	SVON3
ERC1	8	58	ERC3
ALM1	9	59	ALM3
INP1	10	60	INP3
RDY1	11	61	RDY3
EGND	12	62	EGND
EA1+	13	63	EA3+
EA1-	14	64	EA3-
EB1+	15	65	EB3+
EB1-	16	66	EB3-
EZ1+	17	67	EZ3+
EZ1-	18	68	EZ3-
VPP	19	69	VPP
EGND	20	70	EGND
OUT2+	21	71	OUT4+
OUT2-	22	72	OUT4-
DIR2+	23	73	DIR4+
DIR2-	24	74	DIR4-
SVON2	25	75	SVON4
ERC2	26	76	ERC4
ALM2	27	77	ALM4
INP2	28	78	INP4
RDY2	29	79	RDY4
EGND	30	80	EGND
EA2+	31	81	EA4+
EA2-	32	82	EA4-
EB2+	33	83	EB4+
EB2-	34	84	EB4-
EZ2+	35	85	EZ4+
EZ2-	36	86	EZ4-
PEL1	37	87	PEL3
MEL1	38	88	MEL3
CMP1	39	89	CMP3
SD1	40	90	SD3
ORG1	41	91	ORG3
EGND	42	92	EGND
PEL2	43	93	PEL4
MEL2	44	94	MEL4
CMP2	45	95	CMP4
SD2	46	96	SD4
ORG2	47	97	ORG4
EGND	48	98	EGND
EGND	49	99	EX+24V
EGND	50	100	EX+24V

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