

## Specifications

### Motion

- Number of axes: 8 axes
- Max number of cards in one system: 6
- 0.05 pps-6.5 Mpps programmable Pulse/Dir, CW/CCW pulse command output/each axis
- 28-bit 6.5 MHz Up/Down counter for encoder feed back signals
- Position range: 0-268, 435, 455 Pulses (28-bit)
- 28-bit position comparator and trigger pulse output

### Motion Interface I/O Signals

- All I/O pins are differential and 2500 V<sub>RMS</sub> optically isolated
- Incremental encoder signals input pins: EA and EB
- Encoder index signal input: EZ
- Mechanical limit switch signal input pins: ±EL and ORG
- Servomotor interface I/O pins: INP, ALM, ERC
- Position Compare output pin: CMP
- General DO pin: SVON
- General DI pin: RDY

### General Purpose I/O

- 8 channel isolated Digital input
- Input Voltage: 0-24 V
- Input resistance: 2.4 KΩ @ 0.5 W
- 8 channel isolated Digital outputs
- Output Voltage: Min. 5 V; Max. 35 V
- Output types: NPN open collector Darlington transistors; Max. current sink: 90 mA

### Analog Input (A/D)

- Converter and Resolution: 12 Bit LTC1402
- Input channels: 4 Single-Ended
- Input range: ±10 V; Bipolar
- Conversion Time: 8 μsec
- Sampling rate: 110 kS/s maximum
- Output Voltage: Min. 5 V; Max. 35 V
- Over voltage protection: continuous ± 35 V
- Accuracy: 0.01% of FSR ± 1 LSB

### Analog Output (D/A)

- Converter and Resolution: 16 Bit; AD1866R
- Output channels: 4 Single-Ended
- Output range: ±10 V; Bipolar
- Settling Time: 2 μsec (-10 V to +10 V)

### High Speed Remote I/O

- Connector: RJ45
- Cable: Shield 100 Base/TX Ethernet cable
- Wiring distance: 100 meters
- Multi-drop full duplex RS-422 with transformer isolation scheme
- Data rate: 6 Mbps
- I/O refreshing rate: 30.1 μsec per slave
- Control maximum 63 slave I/O modules; maximum 1000 inputs/1000 outputs

### Camera Control Interface

- Camera Control Interface
- RS-422 signal level

### Optional SYNC board

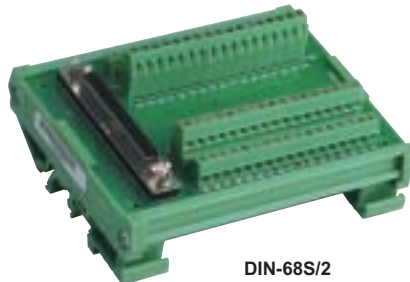
- Camera timing control
- HD, VD, and trigger signals output

### LED display

- Motion chipset busy display
- HSL communications error

## Termination Board

- **DIN-68S/2**  
Termination Board for VHDCI Connector with 1.8M Cable



DIN-68S/2

## cPCI-8168 Pin Assignment of the 68-pin VHDCI Connector

VPP	1	35	VPP
IGND	2	36	IGND
OUT1+	3	37	OUT2+
OUT1-	4	38	OUT2-
DIR1+	5	39	DIR2+
DIR1-	6	40	DIR2-
SVON1	7	41	SVON2
ERC1	8	42	ERC2
ALM1	9	43	ALM2
INP1	10	44	INP2
RDY1	11	45	RDY2
EA1+	12	46	EA2+
EA1-	13	47	EA2-
EB1+	14	48	EB2+
EB1-	15	49	EB2-
EZ1+	16	50	EZ2+
EZ1-	17	51	EZ2-
VPP	18	52	VPP
IGND	19	53	IGND
PEL1	20	54	PEL2
MEL1	21	55	MEL2
IGND	22	56	IGND
IGND	23	57	IGND
ORG1	24	58	ORG2
AGND	25	59	AGND
AIN1	26	60	AIN2
AGND	27	61	AGND
AOUT1	28	62	AOUT2
DI_COM	29	63	DI_COM
DIN1	30	64	DIN2
DOUT1	31	65	DOUT2
IGND	32	66	IGND
IGND	33	67	IGND
E_24V	34	68	E_24V

## Ordering Information

- **cPCI-8168**  
CompactPCI 8-Axis Motion Control Card

Note: Products are shipped with software development kits for DOS, Windows 2000/NT/XP/9x, and MotionCreator.

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