AMP-204C / AMP-208C

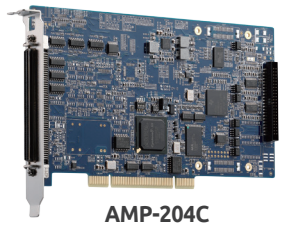
DSP-based 4/8-axis Advanced Pulse-Train Motion Controllers

Features

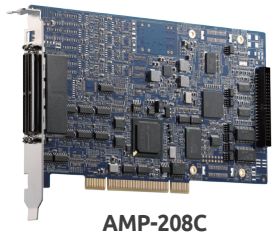
- Onboard floating-point DSP
- 4/8 axis pulse-train command up to 6.5MHz
- Trajectory cycle time up to 1 KHz
- Encoder feedback frequency up to 20 MHz with digital filter design
- High speed position latch function via ORG and Index signals
- High speed position comparison and trigger output up to 1MHz for auto-optical inspection
- 32 additional onboard digital I/O channels (16DI & 16DO) save the cost of a full DI/O card
- PWM control of laser application
- Programmable interrupt source control to host PC
- Watchdog timer for safety control
- Includes ADLINK's MotionCreatorPro 2TM suite of graphical installation, 3D trajectory plot, and data sampling for diagnostic programs
- Support for up to 16 cards in a single system

Motion Features

- Jogging mode
- Pre-defined engineering unit
- Any 2-6 axis linear interpolation
- Any 3 axis circular interpolation
- Any 3 axis spiral interpolation (incl. helical interpolation)
- Multi-axis synchronous motion (Master-Slave)
  - Gantry mode
  - Electronic gear
- Point table function for contouring application
- Velocity planning and point-table functions support contouring applications
- Safety level setting prevents damage to mechanism and operator
- Trapezoidal, S-curve velocity, user-defined profile
- Position override & speed override anytime
- Variety of homing modes via ORG and index signals
- Backlash compensation



AMP-204C



AMP-208C

Software Support

- **OS Information**
  Windows® 8/7/XP
- **Software Compatibility**
  - VB/VC++/BCB/VB.NET
  - Various sample programs with source code
- **Software Recommendations**
  MotionCreatorPro2

Ordering Information

- **AMP-204C**
  DSP-based 4-axis advanced pulse-train motion controller
- **AMP-208C**
  DSP-based 8-axis advanced pulse-train motion controller

Accessories

Terminal Board

- **DIN-825-GP4**
  Terminal board with 100-pin SCSI-Ⅱ connector for general purpose servo & stepper

Cable

- **ACL-102100-1**
  100-pin SCSI-Ⅱ cable, 1M
- **SCSI-VHDCI 100P**
  100-pin SCSI VHDCI cable, available for 2 M, 3 M and 5 M

Specifications

Motion Control	
Positioning Range	4 x 10^{15} counts
Speed Progamming Range	32,767,000 count / sec
Max. Acceleration Rate	4 x 10^{15} counts / sec^2
Pulse Output Channels	
Number of Channels	4-CH for AMP-204C; 8-CH for AMP-208C
Pulse Output Rate	6.55 Mpps (max.)
Pulse Output Mode	CW/CCW, OUT/DIR
Encoder Input Channels	
Number of Channels	4-CH for AMP-204C; 8-CH for AMP-208C
Max. Encoder Input Frequency	20 MHz under 4xAB mode
Encoder Input Modes	OUT/DIR, CW/CCW and 1x/2x/4x AB phase
Trigger Channels	
Number of Trigger Output Channels	2-CH for AMP-204C; 4-CH for AMP-208C
Position Compared Method	Linear / FIFO
FIFO Size	16 per channel (hardware-based) ; 5,000 per channel (software-based)
Trigger Pulse Output Frequency	1 MHz for linear comparison ; 1 MHz for FIFO comparison (hardware-based)
	500 Hz for FIFO comparison (software-based)
Trigger Pulse Width	0.2 µs to 167 ms
Motion I/O Interface Signals	
I/O Pin	2500 V_{RMS} optically isolated on DIN-825-GP4
Encoder Index Signal Input	EZ
Mechanical Limit Switch Signal Input Pin	±EL and ORG
Servomotor Interface I/O Pin	INP, ALM, SVON
Miscellaneous Pin	IEMG, TRG (PWM)
General Purpose Isolated I/O (on DIN-825-GP4 Series)	
Digital Input	20-CH (for AMP-204C) and 24-CH (for AMP-208C) digital input
Input Voltage	0 to 24 V
Input Resistance	4.7 KΩ @ 0.5 W
Digital Output	20-CH (for AMP-204C) and 24-CH (for AMP-208C) digital output
Output Voltage	5 V (Min.) ; 35 V (Max.)
Output Type	NPN open collector
Sink Current	90 mA
Genaral Specifications	
Connectors	100-pin SCSI-VHDCI type connector
Operating Temperature	0˚C to +55˚C (32˚F to 131˚F)
Storage Temperature	+20˚C to +80˚C (68˚F to 176˚F)
Humidity	5% to 95%, non-condensing

Pin Assignment

AMP-204C & AMP-208C

DGND	1	51	IEMG
DGND	2	52	Rsv.
Rsv.	3	53	Rsv.
Rsv.	4	54	Rsv.
Rsv.	5	55	Rsv.
Rsv.	6	56	Rsv.
Rsv.	7	57	Rsv.
Rsv.	8	58	Rsv.
Rsv.	9	59	Rsv.
Rsv.	10	60	Rsv.
EA5V	11	61	DGND
EA5V	12	62	DGND
OUT1+	13	63	OUT3+
OUT1-	14	64	OUT3-
DIR1+	15	65	DIR3+
DIR1-	16	66	DIR3-
OUT2+	17	67	OUT4+
OUT2-	18	68	OUT4-
DIR2+	19	69	DIR4+
DIR2-	20	70	DIR4-
TRG1+	21	71	TRG2+
TRG1-	22	72	TRG2-
EA1+	23	73	EA3+
EA1-	24	74	EA3-
EB1+	25	75	EB3+
EB1-	26	76	EB3-
EZ1+	27	77	EZ3+
EZ1-	28	78	EZ3-
EA2+	29	79	EA4+
EA2-	30	80	EA4-
EB2+	31	81	EB4+
EB2-	32	82	EB4-
EZ2+	33	83	EZ4+
EZ2-	34	84	EZ4-
ALM1	35	85	ALM3
ORG1	36	86	ORG3
SVON1	37	87	SVON3
PEL1	38	88	PEL3
INP1	39	89	INP3
MEL1	40	90	MEL3
ALM2	41	91	ALM4
ORG2	42	92	ORG4
SVON2	43	93	SVON4
PEL2	44	94	PEL4
INP2	45	95	INP4
MEL2	46	96	MEL4
EDO1	47	97	EDO3
EDI1	48	98	EDI3
EDO2	49	99	EDO4
EDI2	50	100	EDI4