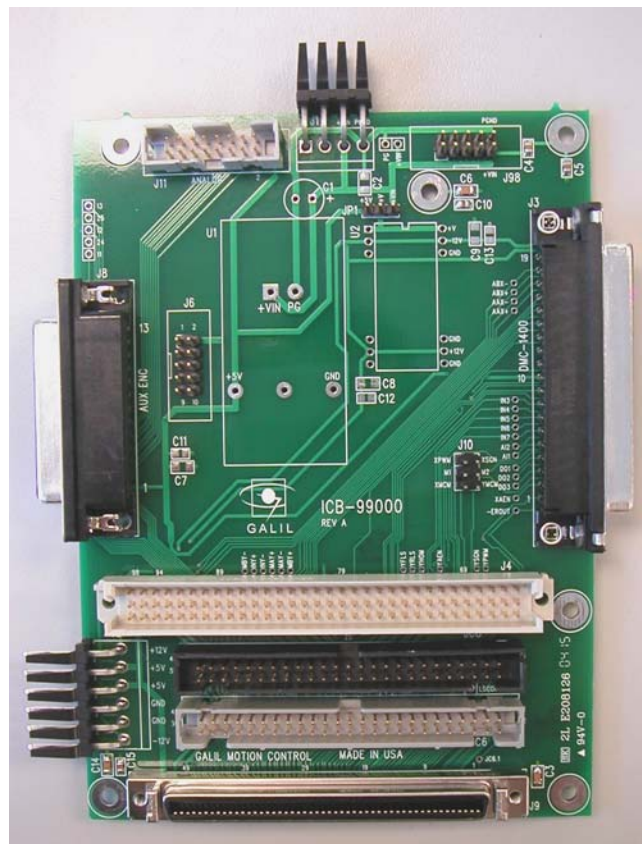


Application Note #5457

ICB-99000 Interconnect Converter Board

The ICB-99000 board provides interconnectivity between most Galil DMC-21x3 Amplifier modules and all Legacy, Econo and Optima-Series controllers. Galil's DMC-21x3 amplifiers such as the SDM-20240, AMP-20341, and AMP-204x0 plug directly into the 96 pin DIN connector on the ICB-99000. The ICB then connects to a Galil controller through one of the three connectors: 100-pin SCSI connector, two 50-pin male keyed IDC connectors, or a 37-pin DSub connector. This allows the DMC-10x0, DMC-12x0, DMC-13x0, DMC-13X8, DMC-14XX, DMC-15x0, DMC-16X0, DMC-17XX, DMC-18XX, DMC 20x0, or DMC-22x0 to connect to the series of amplifiers designed for the DMC-21X3 series controller. This board will be populated as necessary for your application.



ICB-99000 Interconnect Converter Board
(Board shown populated with all available connectors)

Ordering options for the ICB-99000 are as follows:

Part Number	Description
ICB-99000-37 Pin	Converter board with 37-Pin DSub connector for connecting to a 14xx series controller
ICB-99000-50 Pin	Converter board with two 50-Pin Male IDC connectors for connecting to DMC-12x0. Also allows direct connection from DMC-17X0/18X0 controller's 5-8 axes connectors.
ICB-99000-100 Pin	Converter board with 100-Pin High-Density connector for connecting to an Optima controller. This option comes populated with the auxiliary encoder 25-Pin Male Dsub.

Additional Features	Description
-DC24	18-36 VDC input DC to DC converter, recommended for stable drive logic power (not applicable on AMP 20341), especially with 5V loading exceeding 100mA for encoders and other peripherals.
-DC48	36-72 VDC input DC to DC converter, recommended for stable drive logic power (not applicable on AMP 20341), especially with 5V loading exceeding 100mA for encoders and other peripherals
-J2	5VDC & +/-12VDC input connector for drive logic power. Recommended for applications where 5V peripheral loading exceeds 100mA and DC converter option is not desired.

(Please specify controller and amplifier for use with the ICB-99000 at the time of order. To use with SDM-206x0, or AMP-205x0, please contact an applications engineer for additional details.)

I. Pinouts for Connectors

J1 4-Pin Male Molex (Mating Connector #26-03-4041, Connector Pins #08-50-0189)

1	GND	2	+Vin	3	NC
4	Earth GND				

J2 6-Pin Male Molex (Mating Connector #26-03-4061, Connector Pins #08-50-0189)

1	-12V	3	GND	5	+5V
2	GND	4	+5V	6	+12V

J3 X-Axis 37-Pin Female D-sub

1	EXT RESET	14	-MAX	26	W LATCH
2	XAEN	15	-MBX	27	Y LATCH
3	OUTPUT 3	16	-INX	28	FWD LIMIT X
4	OUTPUT 1	17	ANALOG IN 2 / -AAX	29	REV LIMIT X
5	ANALOG IN 1	18	ANALOG IN 4 / -ABX	30	HOME X
6	INPUT 7	19	M2	31	-12V
7	INPUT 5	20	ERROR OUT	32	+MAX
8	Z LATCH	21	M1	33	+MBX
9	X LATCH	22	OUTPUT 2	34	+INX
10	Vcc	23	OUTPUT COMPARE	35	ANALOG IN 1 / +AAX
11	GND	24	ANALOG IN 2	36	ANALOG IN 3 / +ABX
12	+12V	25	INPUT 6	37	ABORT IN
13	GND				

J6 10-Pin Male IDC

1	NOT USED	2	GND
3	+AAZ	4	-AAZ
5	+ABZ	6	-ABZ
7	+AAW	8	-AAW
9	+ABW	10	-ABW

J8 Aux Encoders 25-Pin Female D-Sub

1	VCC (+5 VOLTS)	14	GND
2	+AAX	15	-AAX
3	+ABX	16	-ABX
4	+AAY	17	-AAY
5	+ABY	18	-ABY
6	VCC (+5 VOLTS)	19	GND
7	+AAZ	20	-AAZ
8	+ABZ	21	-ABZ
9	+AAW	22	-AAW
10	+ABW	23	-ABW
11	NOT USED	24	NOT USED
12	NOT USED	25	NOT USED
13	NOT USED		

JC8 50-Pin Male IDC

J9 100-Pin HD

JC6 50-Pin Male IDC

J9(Continued)

AMP Part# 2-178238-9

1	Analog Ground	1	Analog Ground	1	NC	51	NC
2	Ground	2	Ground	2	Ground	52	Ground
3	+5V	3	+5V	3	+5V	53	+5V
4	Error Output	4	Error Output	4	Limit common	54	Limit common
5	Reset	5	Reset	5	Home W	55	Home W
6	Encoder-Compare Output	6	Encoder-Compare Output	6	Reverse limit W	56	Reverse limit W
7	Ground	7	Ground	7	Forward limit W	57	Forward limit W
8	Ground	8	Ground	8	Home Z	58	Home Z
9	Motor command W	9	Motor command W	9	Reverse limit Z	59	Reverse limit Z
10	Sign W / Dir W	10	Sign W / Dir W	10	Forward limit Z	60	Forward limit Z
11	PWM W / Step W	11	PWM W / Step W	11	Home Y	61	Home Y
12	Motor command Z	12	Motor command Z	12	Reverse limit Y	62	Reverse limit Y
13	Sign Z / Dir Z	13	Sign Z / Dir Z	13	Forward limit Y	63	Forward limit Y
14	PWM Z / Step Z	14	PWM Z / Step Z	14	Home X	64	Home X
15	Motor command Y	15	Motor command Y	15	Reverse limit X	65	Reverse limit X
16	Sign Y / Dir Y	16	Sign Y / Dir Y	16	Forward limit X	66	Forward limit X
17	PWM Y / Step Y	17	PWM Y / Step Y	17	Ground	67	Ground
18	Motor command X	18	Motor command X	18	+5V	68	+5V
19	Sign X / Dir X	19	Sign X / Dir X	19	Input common	69	Input common
20	PWM X / Step X	20	PWM X / Step X	20	Latch X	70	Latch X
21	Amp enable W	21	Amp enable W	21	Latch Y	71	Latch Y
22	Amp enable Z	22	Amp enable Z	22	Latch Z	72	Latch Z
23	Amp enable Y	23	Amp enable Y	23	Latch W	73	Latch W
24	Amp enable X	24	Amp enable X	24	Input 5	74	Input 5
25	A+ X	25	A+ X	25	Input 6	75	Input 6
26	A- X	26	A- X	26	Input 7	76	Input 7
27	B+ X	27	B+ X	27	Input 8	77	Input 8
28	B- X	28	B- X	28	Abort	78	Abort
29	I+ X	29	I+ X	29	Output 1	79	Output 1
30	I- X	30	I- X	30	Output 2	80	Output 2
31	A+ Y	31	A+ Y	31	Output 3	81	Output 3
32	A- Y	32	A- Y	32	Output 4	82	Output 4
33	B+ Y	33	B+ Y	33	Output 5	83	Output 5
34	B- Y	34	B- Y	34	Output 6	84	Output 6
35	I+ Y	35	I+ Y	35	Output 7	85	Output 7
36	I- Y	36	I- Y	36	Output 8	86	Output 8
37	A+ Z	37	A+ Z	37	+5V	87	+5V
38	A- Z	38	A- Z	38	Ground	88	Ground
39	B+ Z	39	B+ Z	39	Ground	89	Ground
40	B- Z	40	B- Z	40	Ground	90	Ground
41	I+ Z	41	I+ Z	41	Analog In 1	91	Analog In 1
42	I- Z	42	I- Z	42	Analog In 2	92	Analog In 2
43	A+ W	43	A+ W	43	Analog In 3	93	Analog In 3
44	A- W	44	A- W	44	Analog In 4	94	Analog In 4
45	B+ W	45	B+ W	45	Analog In 5	95	Analog In 5
46	B- W	46	B- W	46	Analog In 6	96	Analog In 6
47	I+ W	47	I+ W	47	Analog In 7	97	Analog In 7
48	I- W	48	I- W	48	Analog In 8	98	Analog In 8
49	+12V	49	+12V	49	-12V	99	-12V
50	+12V	50	+12V	50	-12V	100	-12V

J10 6-Pin Male IDC

1	PWM X	2	SIGN X
3	M1	4	M2
5	MCMD X	6	MCMD Y

J11 Analog 14-Pin Male IDC

1	GND	2	GND
3	ANALOG IN 1 / +AAX	4	ANAOLG IN 2 / -AAX
5	ANALOG IN 3 / +ABX	6	ANALOG IN 4 / -ABX
7	ANALOG IN 5 / +AA Y	8	ANALOG IN 6 / -AA Y
9	ANALOG IN 7 / +ABY	10	ANALOG IN 8 / -ABY
11	GND	12	GND
13	-12V	14	+12V
15	Vcc	16	GND

J98 10-Pin Male IDC

1	+V IN	2	PWR GND
3	+V IN	4	PWR GND
5	+V IN	6	PWR GND
7	+V IN	8	PWR GND
9	+V IN	10	PWR GND

II. Board Layout

Overall Board Dimensions are 4.25" x 5.88".