



# SPC-5

## STEP/PAK PLUS™ Indexer Interface Module

Science In Motion...

The  
STEP/PAK PLUS™

Modular Motion  
Control System

### System Features

*Powers, Drives And  
Controls up to 8  
(eight) Stepping or  
Servo Motors*

*External Indexer or  
Interface Modules For  
A Variety of Control  
Solutions*

*Standard 19" (4U)  
Rack Mount*

*All Indexer and Driver  
Modules Powered from  
The 48VAC BUS Via An  
External Isolation  
Transformer*



The *Step Pak Plus SPC-5 Interface Module* provides two 68-pin front panel connectors for direct connection to the Pro-Dex MAXv-8000 VME indexer controller.

**SPC-5** connectivity allows for any Step Pak SPD series stepper, or SPS series servo modules to be controlled by the MAXv-8000.

PCB mount stepper/ servo selector switches provide quick motor selection. 5V encoder power can be bused directly through the **SPC-5** to the new SPR-9 *Plus* system rack.

The **SPC-5 Interface Module** works with the SPR-9, or new SPR-9 *Plus* system racks.

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The **Step Pak Modular Motion Control System** is designed for the drive and control of up to 8 (eight) motors. Well suited for control scenarios using different sizes and types of stepping or servo motors in the same application, the *Step Pak* System provides Scientists with economy, flexibility and scalability



Pin	Function	Pin	Function
1	Phase A1+	35	Index 1+
2	Phase A1-	36	Index 1-
3	Phase B1+	37	Step 1
4	Phase B1-	38	GND
5	Servo 2+	39	Servo 1+
6	Servo 2-	40	Servo1-
7	Home 2	41	Home 1
8	Dir 2	42	Dir 1
9	NC	43	NC
10	GND	44	GND
11	Limit 2+	45	Limit 1+
12	Limit 2-	46	Limit 1-
13	Phase A2+	47	Index 2+
14	Phase A2-	48	Index 2-
15	Phase B2+	49	Step 2
16	Phase B2-	50	GND
17	+5VE (Encoder Supply Voltage)	51	V-Bias
18	GND	52	GND
19	Phase A3+	53	Index 3+
20	Phase A3-	54	Index 3-
21	Phase B3+	55	Step 3
22	Phase B3-	56	GND
23	Servo 4+	57	Servo 3+
24	Servo 4-	58	Servo 3-
25	Home 4	59	Home 3
26	Dir 4	60	Dir 3
27	NC	61	NC
28	GND	21	GND
29	Limit 4+	63	Limit 3+
30	Limit 4-	64	Limit 3-
31	Phase A4+	65	Index 4+
32	Phase A4-	66	Index 4-
33	Phase B4+	67	Step 4
34	Phase B4-	68	GND

SPC-5, Connector 1, Motors 1 through 4, Connector Pin Assignments

Pin	Function	Pin	Function
1	Phase A5+	35	Index 5+
2	Phase A5-	36	Index 5-
3	Phase B5+	37	Step 5
4	Phase B5-	38	GND
5	Servo 6+	39	Servo 5+
6	Servo 6-	40	Servo 5-
7	Home 6	41	Home 5
8	Dir 6	42	Dir 5
9	NC	43	NC
10	GND	44	GND
11	Limit 6+	45	Limit 5+
12	Limit 6-	46	Limit 5-
13	Phase A6+	47	Index 6+
14	Phase A6-	48	Index 6-
15	Phase B6+	49	Step 6
16	Phase B6-	50	GND
17	+5VE (Encoder Supply Voltage)	51	V-Bias
18	GND	52	GND
19	Phase A7+	53	Index 7+
20	Phase A7-	54	Index 7-
21	Phase B7+	55	Step 7
22	Phase B7-	56	GND
23	Servo 8+	57	Servo 7+
24	Servo 8-	58	Servo 7-
25	Home 8	59	Home 7
26	Dir 8	60	Dir 7
27	NC	61	NC
28	GND	21	GND
29	Limit 8+	63	Limit 7+
30	Limit 8-	64	Limit 7-
31	Phase A8+	65	Index 8+
32	Phase A8-	66	Index 8-
33	Phase B8+	67	Step 8
34	Phase B8-	68	GND

SPC-5, Connector 2, Motors 5 through 8, Connector Pin Assignments

<u>JO</u>		<u>JO</u>		<u>JO</u>		<u>JO</u>	
1A	48VAC	1B	48 VAC	1C	48 VAC	1D	48 VAC
2A	Index 8 -	2B	Index 8 +	2C	M Home 8	2D	Lim 8 -
3A	PHA 8 -	3B	PHA 8 +	3C	Lim 8 +	3D	M Home 7
4A	PHB 8 -	4B	PHB 8 +	4C	Lim 7 -	4D	Lim 7 +
5A	NC	5B	E Home 8	5C	M Home 6	5D	Lim 6 -
6A	Index 7 -	6B	Index 7 +	6C	Lim 6 +	6D	M Home 5
7A	PHA 7 -	7B	PHA 7 +	7C	Lim 5 -	7D	Lim 5 +
8A	PHB 7 -	8B	PHB 7 +	8C	M Home 4	8D	Lim 4 -
9A	NC	9B	E Home 7	9C	Lim 4 +	9D	M Home 3
10A	Index 6 -	10B	Index 6 +	10C	Lim 3 -	10D	Lim 3 +
11A	PHA 6 -	11B	PHA 6 +	11C	M Home 2	11D	Lim 2 -
12A	PHB 6 -	12B	PHB 6 +	12C	NC	12D	Lim 2 +
13A	Index 5 -	13B	E Home 6	13C	+5VE	13D	+5VE
14A	NC	14B	Index 5 +	14C	NC	14D	NC
15A	NC	15B	PHA 5 +	15C	NC	15D	M Home 1
16A	PHA 5 -	16B	PHB 5 +	16C	NC	16D	Lim 1 -
17A	PHB 5 -	17B	E Home 5	17C	NC	17D	Lim 1 +
18A	E Home 4	18B	PHB 4 -	18C	NC	18D	Dir 1
19A	PHB 4 +	19B	PHA 4 -	19C	NC		Servo 1-
20A	PHA 4 +	20B	Index 4 -	20C	NC	19D	Step 1
21A	Index 4 +	21B	E Home 3	21C	NC		Servo 1+
22A	PHB 3 -	22B	PHB 3 +	22C	NC	20D	NC
23A	PHA 3 -	23B	PHA 3 +	23C	Step 3	21D	Dir 2
24A	Index 3 -	24B	Index 3 +		Servo 3+		Servo 2-
25A	E Home 2	25B	PHB 2 -	24C	Dir 4	22D	Step 2
26A	PHB 2 +	26B	PHA 2 -		Servo4-		Servo 2+
27A	PHA 2 +	27B	Index 2 -	25C	NC	23D	Dir 3
28A	Index 2 +	28B	E Home 1	26C	Step 5		Servo 3-
29A	PHB 1 -	29B	PHB 1 +		Servo 5+	24D	NC
30A	PHA 1 -	30B	PHA 1 +	27C	Dir 6	25D	Step 4
31A	Index 1 -	31B	Index 1 +		Servo 6-		Servo 4+
32A	Gnd	32B	Gnd	28C	NC	26D	Dir 5
				29C	Step 7		Servo 5-
					Servo 7+	27D	NC
				30C	Dir 8	28D	Step 6
					Servo 8-		Servo 6+
				31C	NC	29D	Dir 7
				32C	Gnd		Servo 7-
						30D	NC
						31D	Step 8
							Servo 8+
						32D	Gnd

SPC-5 to SPR-9 / SPR-9 Plus – 128 Pin DIN Connector Pin Assignments