

SPiiPlus Series



SPiiPlus PCI - Axes Functionality Comparison Table

Product	Axes and Supported Features						
	Supported Motors	Axes with $\pm 10V$ Drive Command/s	Axes with Pulse-Direction Drive Commands	S/W Sinusoidal Commutation for DC Brushless Motors	Axes Supporting Dual Loop (* 1)	HSSI Channels	MPU Cycle Time (msec)
SPiiPlus PCI (High performance, full capabilities):							
SPiiPlus PCI-2...	DC brush	2 (X,A)	1 (X)	Yes (by two $\pm 10V$ drive commands per axis)	1 (X)	1(*2)	0.5, 1, 2
SPiiPlus PCI-4...	DC brushless / AC servo	4 (X,A,Y,B)	2 (X,Y)		2 (X,Y)	2(*2)	
SPiiPlus PCI-6...	Nanomotion piezo-ceramic	6 (X,A,Y,B,Z,C)	3 (X,Y,Z)		3 (X,Y,Z)	3(*2)	
SPiiPlus PCI-8...	Step and servo motors with Pulse-Direction drive commands	8 (X,Y,Z,T,A,B,C,D)	4 (X,Y,Z,T)		4 (X,Y,Z,T)	4(*2)	
SPiiPlus PCI-LT (limited resources):							
SPiiPlus PCI-LT-2	DC brush	2 (X,A)	1 (X)	-	1 (X)	1(*2)	1
SPiiPlus PCI-LT-4	DC brushless (commutation by drive)	4 (X,A,Y,B)	2 (X,Y)		2 (X,Y)		
SPiiPlus PCI-LT-6	Nanomotion piezo-ceramic	6 (X,A,Y,B,Z,C)	3 (X,Y,Z)		3 (X,Y,Z)		
SPiiPlus PCI-LT-8	Step and servo motors with Pulse-Direction drive commands	8 (X,Y,Z,T,A,B,C,D)	4 (X,Y,Z,T)		4 (X,Y,Z,T)		
SPiiPlus PCI-ST (limited resources):							
SPiiPlus PCI-ST-2	Step and servo motors with Pulse-Direction drive commands	-	2 (X,Y)	-	-	1(*3)	1
SPiiPlus PCI-ST-4			4 (X,Y,Z,T)				

Notes:

- (*1) - Each Dual Loop consumes another axis which should be defined as a dummy axis.
- (*2) - HSSI Networking for remote axes control and I/O extension.
- (*3) - HSSI Networking for I/O extension only. Each channel supports up to 64/63 additional I/O by four HSSI-I/O16 modules.
- All axes support: drive enable output and drive fault input (both are two-terminal, source or sink, opto isolation, 5V or 24V)
- All axes support: right and left safety inputs (two-terminal, source or sink, opto isolation, 5V or 24V).
- The controller supports one emergency stop input (two-terminal, source or sink, opto isolation, 5V or 24V) to terminate motion of all axes.

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For more information please refer to the **SPiiPlus PCI**, **SPiiPlus PCI-LT** and **SPiiPlus PCI-ST** data sheets.

SPiiPlus Series



SPiiPlus PCI - I/O Functionality Comparison Table

Product	Digital Encoders	Digital I/O				Analog I/O		
		Digital I/O [*4], [*5]	PEG Pulse Outputs	PEG States Outputs	Registration MARK Inputs	Analog Inputs	Analog Outputs	Sin-Cos Encoders (optional)
SPiiPlus PCI (High performance, full capabilities):								
SPiiPlus PCI-2...	1 per axis	6/5	1 (X)	4 per axis (X)	2 per axis (X)	4(*6)	4(*8)	1 per axis
SPiiPlus PCI-4...		8/10	2 (X,Y)	4 per axes (X,Y)	2 per axes (X,Y)	8(*6)	8(*8)	
SPiiPlus PCI-6...		8/11	3 (X,Y,Z)	4 per axes (X,Y)	2 per axes (X,Y,Z)	12(*6)	12(*8)	
SPiiPlus PCI-8...		8/12	4 (X,Y,Z,T)	4 per axes (X,Y)	2 per axes (X,Y,Z,T)	16(*6)	16(*8)	
SPiiPlus PCI-LT (limited resources):								
SPiiPlus PCI-LT-2	1 per axis	6/5	1 (X)	-	2 per axis (X)	4(*7)	2(*9)+2(*10)	-
SPiiPlus PCI-LT-4		8/10	2 (X,Y)		2 per axes (X,Y)		4(*9)+2(*10)	
SPiiPlus PCI-LT-6		8/11	3 (X,Y,Z)		2 per axes (X,Y,Z)		6(*9)+2(*10)	
SPiiPlus PCI-LT-8		8/12	4 (X,Y,Z,T)		2 per axes (X,Y,Z,T)		8(*9)+2(*10)	
SPiiPlus PCI-ST (limited resources):								
SPiiPlus PCI-ST-2	1 per axis	8/10	2 (X,Y)	-	2 per axes (X,Y)	-	-	-
SPiiPlus PCI-ST-4		8/12	4 (X,Y,Z,T)		2 per axes (X,Y,Z,T)			

Notes:

- (*4) - Digital inputs (RS-422, no opto isolation, 5V) for general purpose or registration MARKs.
- (*5) - Digital outputs (RS-422, no opto isolation, 5V, 50mA per output) for general purpose, PEG pulses, PEG states or to control mechanical brake.
- (*6) - Analog inputs (differential, no opto isolation, 1V_{ptp}, 14bit resolution) for general purpose or Sin-Cos encoders. Each Sin-Cos encoder consumes two of the analog inputs.
- (*7) - Analog inputs (differential, no opto isolation, 1V_{ptp}, 14bit resolution) for general purpose only (AIN0...AIN3).
- (*8) - Analog outputs (differential, no opto isolation, ±10V, 16bit resolution) for drive commands or general purpose.
Each servo axis consumes one (torque command) or two (commutation command - for SPiiPlus PCI only) analog outputs.
- (*9) - Analog outputs (differential, no opto isolation, ±10V, 16bit resolution) for drive command (torque command) only.
- (*10) - Analog outputs (differential, no opto isolation, ±10V, 16bit resolution) for general purpose only (AOOUT1 and AOOUT3).

