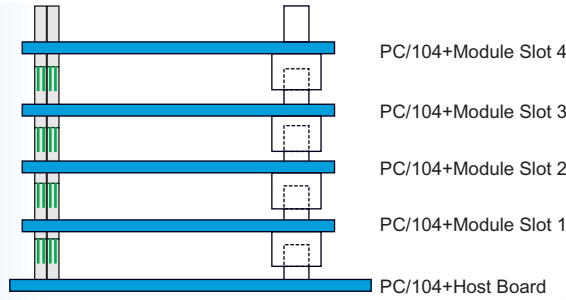


PC/104-Plus Overview and Selection Guide

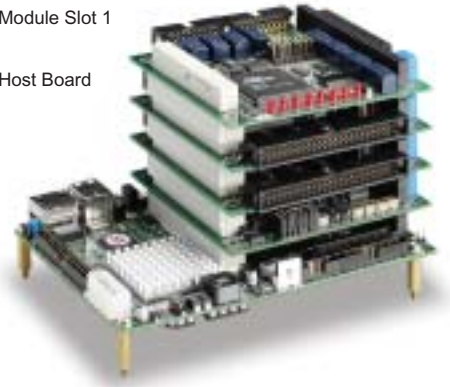
Overview

The original PC/104 bus has done a great job of supporting the 16-bit ISA standard. However, certain applications require greater throughput. Therefore, PC/104-Plus was defined and standardized. It is the 32-bit standard migrated from the desktop to the embedded world while still offering the same functionalities.

PC/104-Plus is a PCI implementation on a stackable board while maintaining the 3.6" x 3.8" form factor. PC/104-Plus modules can also include original PC/104 connectors to allow the most system configuration flexibility. A third connector opposite the PC/104 connectors supports the PCI bus. Basically the electrical specifications of the PC/104-plus bus are compliant with the PCI signals, except 64-bit extensions, JTAG, PRSNT or CLKRUN signals. According to the specifications of PC/104-plus, PC/104-plus modules are installed and configured by switching CLK, IDSEL, INT, REQ and GNT signals through multiplexers to the appropriate connections. Rotary switch on ADLINK PCM-xxxx+ is used for these signals switching.



PC/104-plus module stack
ADLINK provides typical DAQ and DIO modules for PC/104-plus computers, as well as a choice of PC/104-plus motherboard.



	Multifunction DAQ Module	Analog Output Module
	PCM-9112+	PCM-6308V+
3.3V or 5V PCI	5 V	5 V
Bus-mastering DMA	●	–
Auto Calibration	–	–
Analog Input		
Analog Inputs	16 SE/ 8 DI	–
Max. Sampling Rate (S/s)	110k	–
AD Resolution (bits)	12	–
FIFO Size (samples)	8	–
Bipolar Input Ranges	±10 V	–
	±5 V	
	±2.5 V	
	±1.25 V	
Unipolar Input Ranges	±0.625 V	–
	0-10 V	
	0-5 V	
	0-2.5 V	
0-1.25 V		
Analog Output		
Voltage Outputs	2	8
Update Rate (S/s) ⁽¹⁾	33k	11k (Isolated)
Simultaneous Update	–	●
DA Resolution (bits)	12	12
FIFO Size (samples)	–	–
Settling Time	30 us	16 us
Analog Output Ranges	0-5 V	±10 V
	0-10 V	0-10 V
	0-EXTREF	0-EXTREF
Digital I/O, Timer/Counter, and External Trigger		
Digital I/O	–	4 DI, 4 DO (Isolated)
Timer/Counter	16-bit	–
Analog Trigger	–	–
Digital Trigger	●	–
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	Digital I/O Modules		
	PCM-7230+	PCM-7248+	PCM-7250+
3.3V or 5V PCI	5 V	5 V	5 V
Bus-mastering DMA	–	–	–
Isolation	●	–	●
High Speed Digital I/O			
No. of Channels	–	2 x 24-bit 8255 PIO	–
Transfer Rate (Byte/s)	–	500k	–
FIFO Size (words)	–	–	–
Logic Standard	–	5 V/TTL	–
Handshaking Transfer	–	–	–
Dedicated Inputs			
No. of Channels	16	–	8
Max. SamplingRate (Hz) ⁽¹⁾	10k	–	10k
Logic Standard	V _{IH} = 3-24 V V _{IL} = 0-1 V	–	V _{IH} = 3-24 V V _{IL} = 0-1 V
Dedicated Outputs			
No. of Channels	16	–	8
Max. Update Rate (Hz) ⁽¹⁾	10k	–	125
Output Type	Darlington	–	Relay
Timer/Counter			
Timer/Counter	–	WDT	–
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	Serial Communication Modules
	PCM-2855+
3.3V or 5V PCI	5 V
Isolation	●
Port Capability	
No. of Ports	RS-422/485 x 4
Max. Transfer Rate (bps)	115,200
Auto-direction flow control	●
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Legend: ● Supported – Not available

Notes:

(1) Theoretical maximum update rate supported by hardware, real-time performance is system dependent.

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