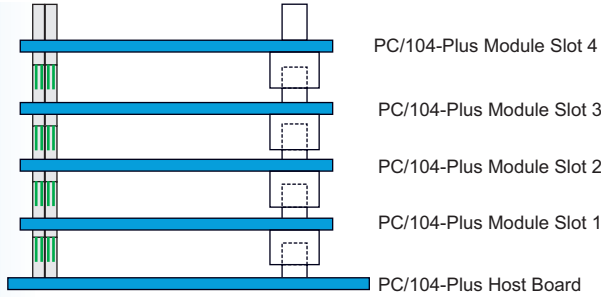


PC/104-Plus Overview and Selection Guide

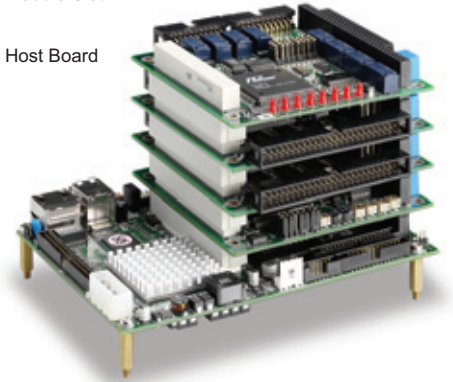
Overview

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.



	Multi-Function DAQ Module	Analog Output Module
Model Name	PCM-9112+	PCM-6308V+
3.3 V or 5 V PCI	5 V	5 V
Bus-mastering DMA	●	–
Auto Calibration	–	–
Analog Input		
Analog Inputs	16 SE/ 8 DI	–
Max. Sampling Rate (S/s)	110 k	–
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	
Analog Output		
Voltage Outputs	2	8
Update Rate (S/s) ⁽¹⁾	33 k	11 k (Isolated)
Simultaneous Update	–	●
DA Resolution (bits)	12	12
FIFO Size (samples)	–	–
Settling Time	30 μs	16 μs
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	●	–

	Digital I/O Modules		
Model Name	PCM-7250+	PCM-7230+	PCM-7248+
3.3 V or 5 V 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)	–	–	500 k ⁽¹⁾
FIFO Size (words)	–	–	–
Logic Standard	–	–	5 V/TTL
Handshaking Transfer	–	–	–
Dedicated Inputs			
No. of Channels	8	16	–
Max. Sampling Rate (Hz) ⁽¹⁾	10 k	10 k	–
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	8	16	–
Max. Update Rate (Hz) ⁽¹⁾	125	10 k	–
Output Type	Relay	Darlington	–
Timer/Counter			
	–	–	WDT

Legend: ● Supported – Not available

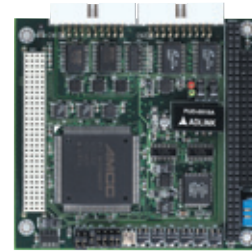
Note:

(1) Actual maximum update rate is dependent on system performance.

PCM-9112+

PC/104-Plus 16-CH 12-Bit 110 kS/s Multi-Function DAQ Module

- PC/104-Plus specifications Rev. 1.2 compliant
- 12-bit A/D resolution
- Up to 110 kS/s sampling rate
- 16-CH single-ended or 8-CH differential inputs
- Onboard A/D FIFO
- Bipolar or unipolar analog input ranges
- Programmable gains of x0.5, x1, x2, x4, x8
- Automatic analog inputs scanning



PCM-6308V+

PC/104-Plus 8-CH 12-Bit Isolated Analog Output Module

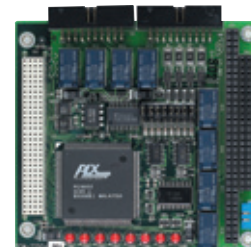
- PC/104-Plus specifications Rev. 1.2 compliant
- 12-bit D/A resolution
- Bipolar or unipolar output ranges
- Isolated 8-CH 12-bit voltage outputs
- External reference input for user-defined ranges
- 4-CH isolated digital outputs and 4-CH isolated digital inputs
- 2500 V_{RMS} optical isolation voltage



PCM-7250+

PC/104-Plus 8-CH Relay Outputs & 8-CH Isolated DI Module

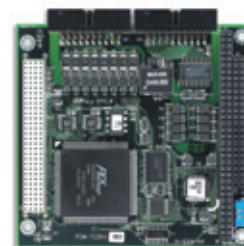
- PC/104-Plus specifications Rev. 1.2 compliant
- 4-CH SPDT and 4-CH SPST relays
- Non-latching relays
- Onboard LED indicators for relay status
- Onboard relay driving circuits
- Relay output status read back
- 8-CH isolated digital inputs
- Onboard low-pass filtering for digital inputs



PCM-7230+

PC/104-Plus 16-CH Isolated DI & 16-CH Isolated DO Module

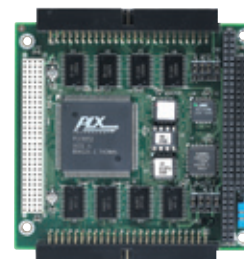
- PC/104-Plus specifications Rev. 1.2 compliant
- 16-CH isolated digital inputs and 16-CH isolated digital outputs
- Non-polarity digital input range
- Isolated input voltage up to 24 V
- 2500 V_{RMS} optical isolation
- Sink current up to 500 mA on each isolated output
- Two external interrupt sources



PCM-7248+

PC/104-Plus 48-CH Opto-22 Compatible DIO Module

- PC/104-Plus specifications Rev. 1.2 compliant
- 48-CH TTL/DTL digital inputs/outputs
- Emulates 2 industry standard 8255 PPI (mode 0)
- Buffered circuits for higher driving capacity
- Direct interface with OPTO-22 compatible I/O modules
- Known power-up states
- Output port status read back
- 1-CH 32-bit timer for timed interrupt generation



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