

Product Presentation PC 104 & PC 104+

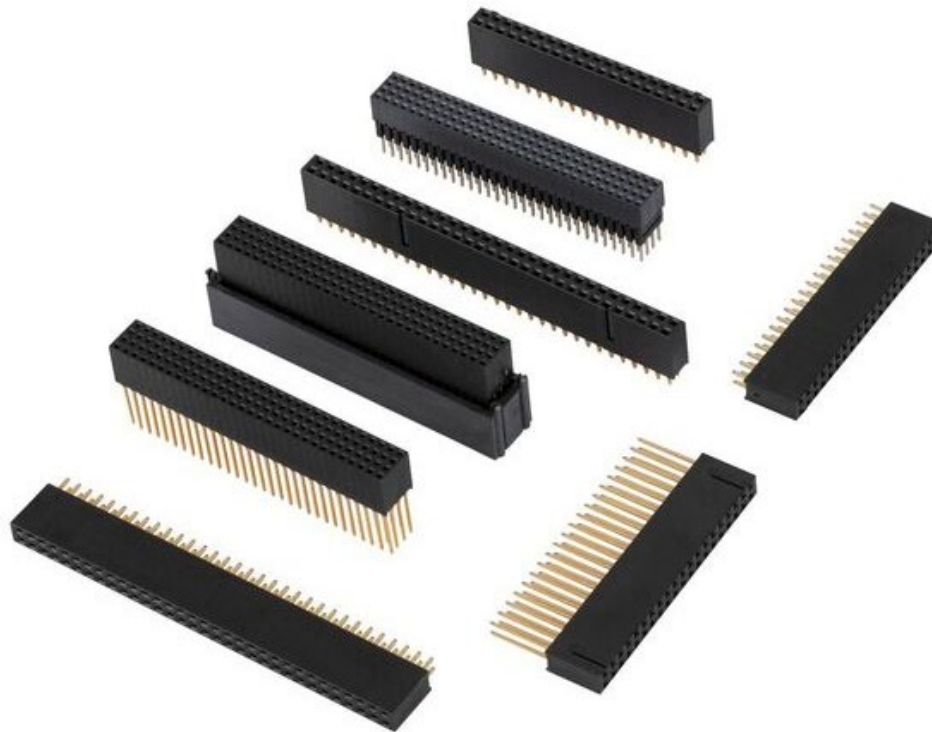
Amphenol Information Communications
and Commercial Products

 ***FCi Basics***

Amphenol ICC

- Value Proposition
- Solution Overview
- Product Specifications
- Features & Benefits
- Markets & Application

- PC/104 & PC/104 Plus



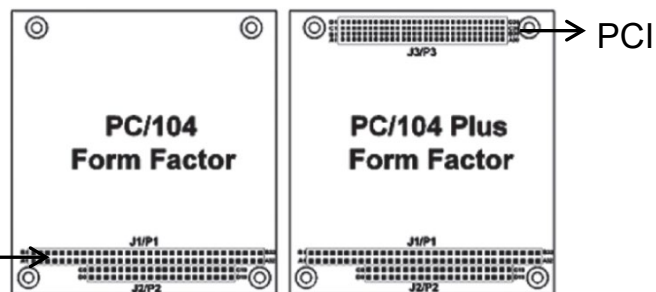
The ISA bus architecture has been a popular choice for embedded applications for a long time, and the publication of the PC/104 standard in 1992 made the ISA bus architecture available in a small, rugged form factor. Since that time, PC/104 has become an industry standard. As technological requirements advanced, a need arose for a higher bus throughput performance. This was especially true for graphics devices and other high-speed I/O devices such as networks. The PC/104 Consortium met this challenge by incorporating a PCI bus into the PC/104 form factor. This new standard has become known as PC/104-Plus. The architecture provides a link for versatile legacy hardware, and meets the high-speed requirements for both present and future hardware.

PC/104:

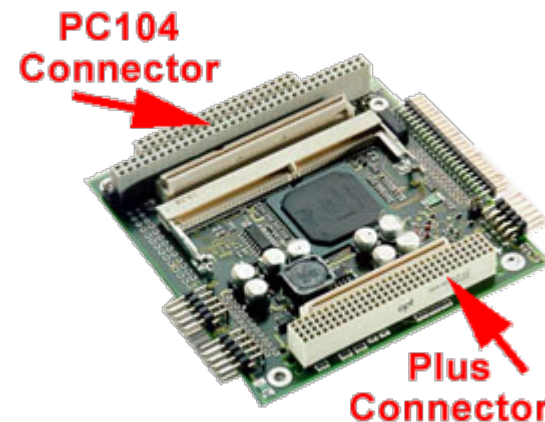
The PC/104 standard specifies the mechanical and electrical specifications for a compact version of the **ISA (PC and PC/AT) bus**, but is optimized for the unique requirements of embedded systems applications. The specification is based on the 104 signal contacts on the two bus connectors (64 pins on P1, plus 40 pins on P2).

PC/104-Plus:

To accommodate the gradual replacement of ISA bus devices with PCI devices, the PC/104-Plus standard was approved in 1997. **The PC/104-Plus connector supports both ISA and PCI buses to accommodate PCI devices.**



PC/104 stack with CPU, Power Supply and Peripheral Modules. The stack is assembled with PC/104 stand-offs creating a singular and rugged unit.



Specifications PC/104

The PC/104 specifications are maintained by the PC/104 Consortium. Specifications for each PC/104 bus structure can be found on the website.

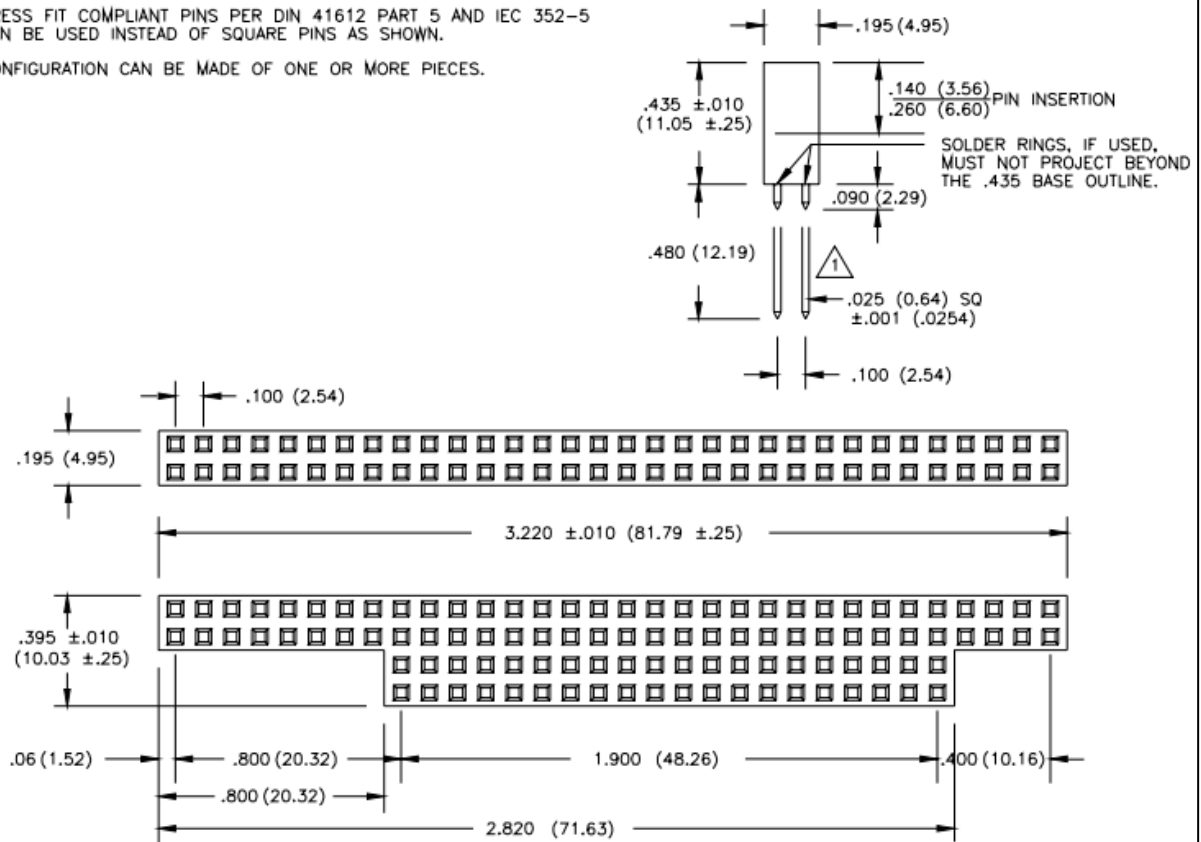
ISA connector dimensions



PC/104
 90 mm x 96 mm
 86.4 cm²
 3.543 in x 3.779 in
 13.4 in²

NOTES:

- 1 PRESS FIT COMPLIANT PINS PER DIN 41612 PART 5 AND IEC 352-5 CAN BE USED INSTEAD OF SQUARE PINS AS SHOWN.
- 2 CONFIGURATION CAN BE MADE OF ONE OR MORE PIECES.



Specifications PC/104

ISA connector specifications :

MATERIALS

Housing:	High Temp Thermoplastic, UL Rated 94-V0
Contact:	Phosphor Bronze
Solder:	Tin-Lead (63-37), If Applicable
Solder Clip:	Aluminum Alloy, If Applicable

CONTACT FINISH

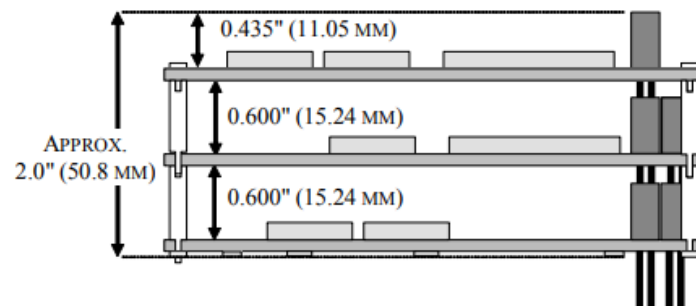
Female Interface:	15 Microinches Minimum Hard Gold
Male Interface:	Gold Flash Minimum
Solder Tail:	100 Microinches Minimum Solder
Underplate:	50 Microinches Minimum Nickel

MECHANICAL PERFORMANCE

Insertion Force:	3.5 Ounce Per Pin Maximum
Withdrawal Force:	1 Ounce Per Pin Minimum
Normal Force:	50 Grams Minimum (Per Beam)
Durability:	50 Cycles Minimum
Operating Temp:	-55° C to +85° C

ELECTRICAL PERFORMANCE

Contact Resistance:	<30 Milliohms Maximum
Current Capacity:	1 Amp Continuous Per Pin
Dielectric Strength:	1000 Vac
Insulation Resistance:	5,000 Megohms Minimum



Features	Benefits
Allows stacking of peripheral boards	Application flexibility
Powerfull data processing and collection performance in a compact footprint	Save PCB space
PC/104 & PC104 Plus modules are designed to work with modules from multiple manufacturers	Promotes interoperability
Features press fit tail	No soldering operation needed

Benefits

The PC/104 concept offers many advantages:

➤ **Stackable:**

The design and location of the PC/104 connectors (ISA, PCI, and PCIe) allow PC/104 modules to be connected or stacked like building blocks. A PC/104 stack might include a CPU (single board computer), a power supply module, and peripheral modules such as data collection modules, network modules, or storage devices. Modules within a PC/104 stack are joined by stand-offs.

➤ **Rugged:**

PC/104 is inherently rugged. A small footprint and corner mounting holes ensure minimum PCB (printed circuit board) flex in high-vibration scenarios. Many modules are manufactured with extended temperature components, allowing operation from -40 to +85°C.

➤ **Compact:**

PC/104 modules occupy a small footprint but offer highly powerful computer processing and data-collection capabilities. Some applications might require one PC/104 single board computer (SBC) and a power supply. Advanced applications can employ an SBC and multiple special-purpose peripheral modules such as GPS receivers, Ethernet switches, video controllers and data collection cards.

➤ **Interoperable:**

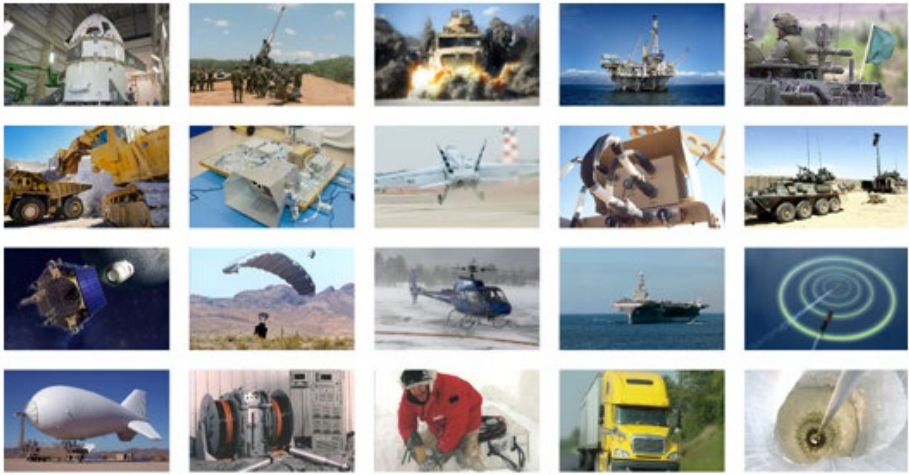
PC/104 modules are designed to work together. Users can tailor a system for their specific requirements using multiple PC/104 modules from different PC/104 manufacturers.



PART NUMBERS

Description	Part Numbers
PC/104 Plus 2.00mm pitch 4 times 30 positions for stack through applications	10153304
PC/104 Plus 2mm pitch 4 times 30 positions press fit end for stack though application	10153305
PC/104 Plus 2.00mm pitch 4 times 30 positions for non stack though application	10153303
PC/104 2.54mm pitch 20 positions, 32 positions and 20+32 positions for stack through or non stack through application	10153301
PC/104 2.54mm pitch 20 positions, 32 positions and 20+32 positions press fit for stack through or non stack through application	10153302

- The main PCB design using PC/104 & PC/104 Plus are Embedded PC's.
 - Industrial machinery
 - Production equipment
 - Industrial Monitoring
 - Military & avionics
 - Tests & measurements equipment



Amphenol ICC

Thank you!