Embedded Solutions

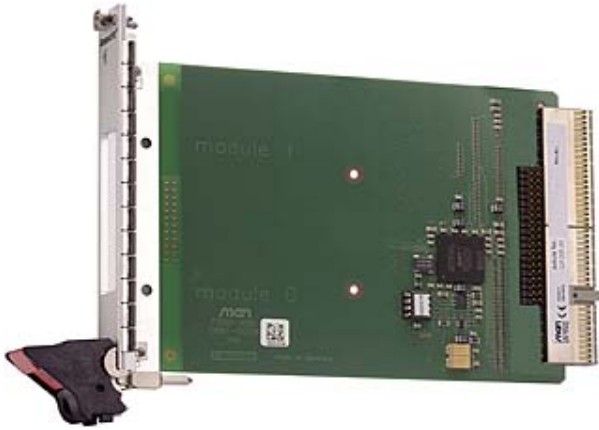# *F204 - 3U CompactPCI/PXI Carrier Board for M-Modules*

- ◆ **1 CompactPCI bus slot**
- ◆ **1 PXI slot**
- ◆ **1 M-Module slot**
- ◆ **Flexible PXI trigger routing**

The F204 is a 3U M-Module carrier board for universal I/O on the CompactPCI bus as well as on PXI for automated testing requirements. It allows high flexibility in applications such as data acquisition or process control. The F204 supports all eight PXI trigger lines as defined in the PXI specification. One M-Module may be installed on the F204, which needs only one slot on either the CompactPCI bus or on the PXI bus. M-Modules are screwed tightly on the board and require no separately mounted transition panel. The F204 offers developers instant access to more than 70 different M-Modules for I/O in fields such as process I/O, measurement, instrumentation, motion control, communication, and development.

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Technical Data

CompactPCI Bus
- Compliance with CompactPCI Specification 2.0 R2.1
- Only one slot required on the 3U CompactPCI bus
- FPGA-based PCI-to-M-Module bridge
  - · Target on PCI bus
  - · Max. clock frequency 33MHz
- Compliance with PCI Specification 2.2
- 32-bit PCI data bus
- V(I/O): +5V (+3.3V on request)

M-Modules
- F204: one M-Module slot on the board
- F205: two M-Module slots on the board
- M-Module compliance: D08, D16, A08, INTA, TRIGI, TRIGO

PXI
- Eight trigger lines compliant with PXI Specification
- Routing of PXI trigger lines to M-Module interface TRIGA, TRIGB

Peripheral Connections
- Via front panel

Electrical Specifications
- Supply voltage/power consumption:
  - · +5V (4.85V..5.25V), 20mA typ.
  - · +3.3V (3.0V..3.6V), 20mA typ.
- MTBF: tbd. @ 50°C

Mechanical Specifications
- F204:
  - · Dimensions: conforming to CompactPCI specification for 3U boards
  - · Front panel: aluminum with 1 handle, cut-out for front connector of M-Module
  - · Weight: tbd. (without M-Modules)
- F205:
  - · Dimensions: 111.7mm x 160mm standard
  - · Front panel: aluminum without handles, cut-outs for front connectors of 2 M-Modules
  - · Weight: tbd. (without M-Modules)

Environmental Specifications
- Temperature range (operation):
  - · 0..+60°C or -40..+85°C
  - · Airflow: min. 10m³/h
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300m to + 3,000m
- Shock: 15g/11ms

- Bump: 10g/16ms
- Vibration (sinusoidal): 2g/10..150Hz

Safety
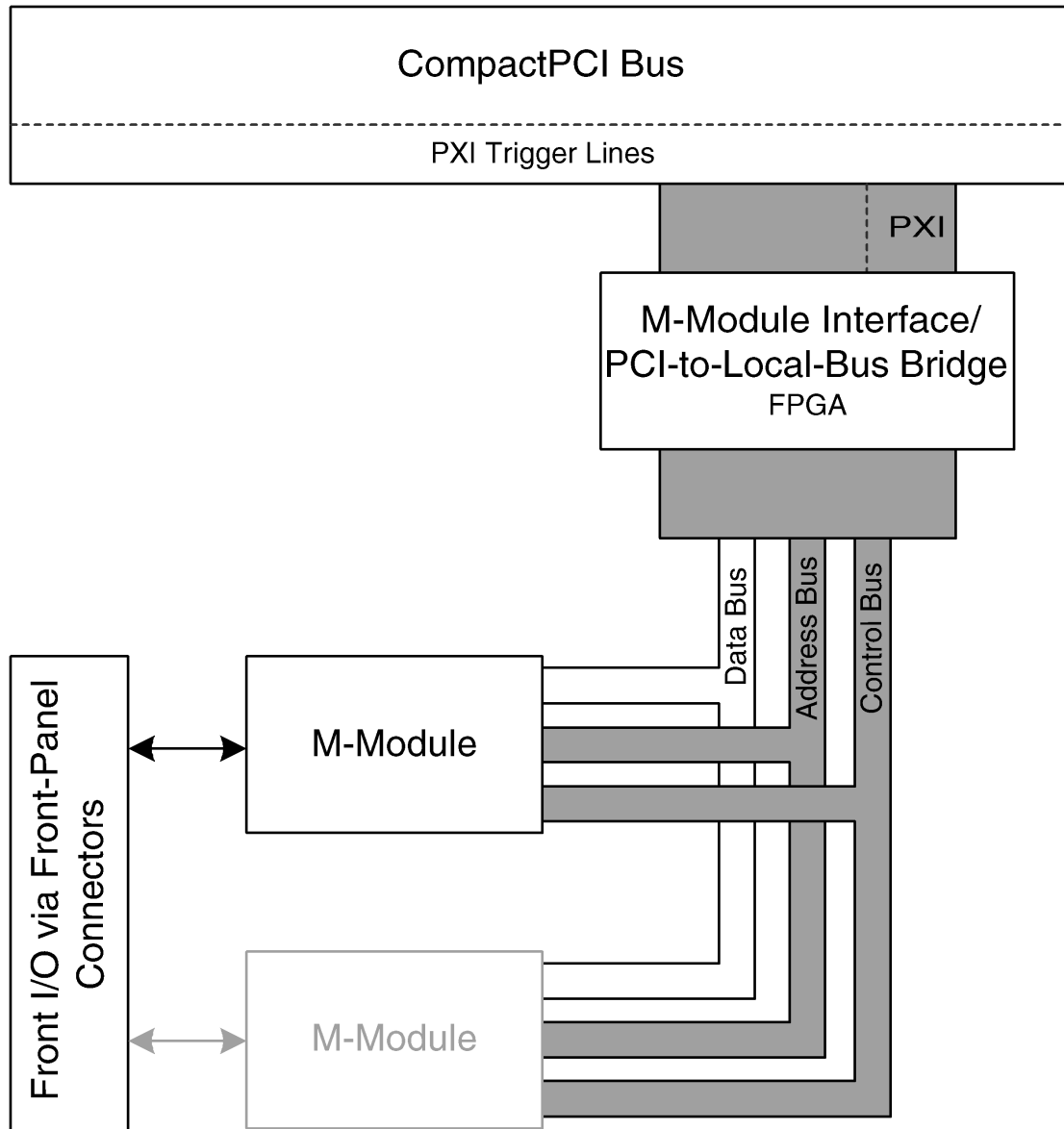- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

EMC
- Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst) with regard to CE conformity

Software Support
- M-Module drivers for Windows, VxWorks, Linux, OS-9, RTX as supported

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Diagram

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CompactPCI Bus

PXI Trigger Lines

PXI

**M-Module Interface/
PCI-to-Local-Bus Bridge**
FPGA

Data Bus

Address Bus

Control Bus

Front I/O via Front-Panel
Connectors

M-Module

M-Module

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Related Products

Standard Hardware

02F204-00	F204, CompactPCI/PXI 3U, carrier board for 1 M-Module, temperature range 0..+60°C
02F204-01	F204, CompactPCI/PXI 3U, carrier board for 1 M-Module, temperature range -40..+85°C

Accessories

05M000-15	Front-panel cover for M-Module cut-outs at front panels, snap-in, 10 pcs
05M000-17	25 mounting screw sets to fix M-Modules on carrier boards

Software

Driver software for Windows, Linux, VxWorks, QNX, RTX and OS-9 is available for the different M-Modules. Please refer to the M-Module/s of your choice for information and download.

Documentation

20APPN001	Application Note: Using MEN +5V CompactPCI Boards with +3.3V V(I/O)
20F204-00	F204/F205 user manual

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