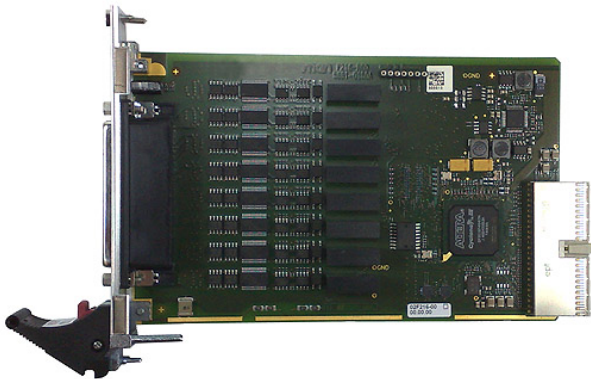


F216 - 3U CompactPCI® Octal UART



- Octal 16550 UART
- RS232/422/485, isolated
- Large receive and transmit FIFOs
- Very high data rates up to 921,600 bits/s
- Full handshake support
- Hardware flow control for RS485 half duplex
- -40 to +85°C with qualified components

The F216 is an octal UART I/O board based on 3U CompactPCI®. Two UART controllers provide four full-duplex serial channels each. The physical layers are integrated on the board: each of the eight channels can be individually configured as single-ended RS232 or differential RS422 or RS485. The default setting is RS422. The UART controller supports high data rates up to 921,600 bits/s, depending on the physical interface type. Its register set is fully 16550D compatible, even with larger, 60-byte FIFOs. Each channel of F216 has its own 500V isolation, with all ports being available on one 78-pin D-Sub

connector. An adapter cable is also available to spread the 78-pin connector to eight standard 9-pin D-Sub connectors.

The F216 is designed for use in rugged environments. For example, all components are specified for an operation temperature of -40 to +85°C. The card easily expands CompactPCI® systems by an additional eight UARTs on 4 HP where the CPU does not provide enough COM interfaces.

Technical Data

UART Interfaces

- Eight RS232/RS422/RS485 UARTs
- Software-configurable
- Default at start-up: RS422, can be customized through non-volatile state saver
- Two 16Z125_UART controllers with four UARTs each
- Data rates:
 - Up to 921,600 bits/s with RS422/RS485
 - Up to 230,400 bits/s with RS232
- 60-byte transmit/receive buffer
- Handshake lines: full support with RS232
- Full-duplex operation with RS422, half-duplex operation with RS485
- Isolation between channels: 500V
- Accessible on front-panel 78-pin D-Sub connector

Miscellaneous

- Four status LEDs at front panel
 - One status LED to signal FPGA configuration (UARTs ready)
 - Three user LEDs, FPGA-controlled by 16Z034_GPIO controller

Local PCI Bus

- 32-bit/33-MHz, 3.3V V(I/O)
- Compliant with PCI Specification 2.2

CompactPCI® Bus

- Compliance with CompactPCI® Core Specification PICMG 2.0 R3.0
- Peripheral slot
- V(I/O): +3.3V

Electrical Specifications

- Supply voltage/power consumption:
 - +5V (-3%/+5%), 510mA
 - +3.3V (-3%/+5%), 150mA

Mechanical Specifications

- Dimensions: conforming to CompactPCI® specification for 3U boards
- Front panel: 4HP with ejector
- Weight: 182g

Environmental Specifications

- Temperature range (operation):
 - -40..+85°C (qualified components)
 - Airflow: min. 1m/s
- 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
- Conformal coating on request

MTBF

- 96,149h @ 40°C according to IEC/TR 62380 (RDF 2000)

Safety

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

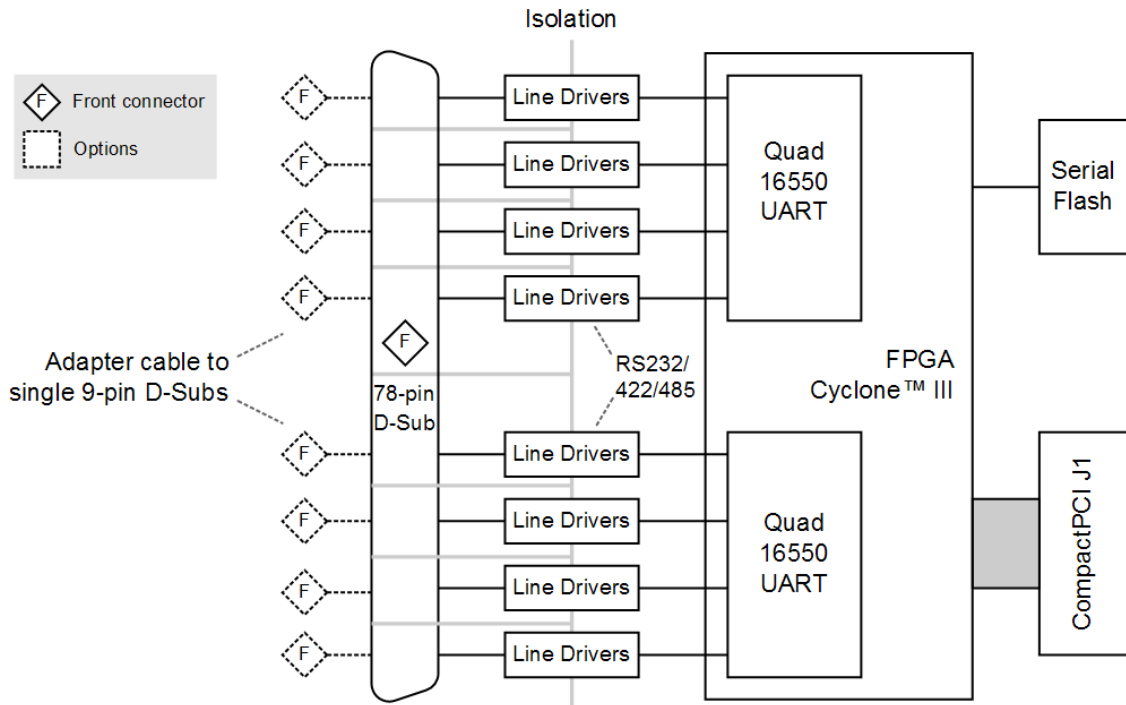
EMC

- Conforming to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst)

Software Support

- Driver software for Windows® (in preparation), Linux, VxWorks®, QNX®
- For more information on supported operating system versions and drivers see Software.

Diagram



Ordering Information

Standard Hardware

02F216-00 8 serial interfaces via 78-pin D-Sub, RS232/422/485 hardware-configurable, -40..+85°C qualified

Miscellaneous

05F216-00 78-pin HD D-Sub to 8x 9-pin D-Sub cable, 1000 mm, -40..+85°C qualified

Software: OS independent

13Z017-06 MDIS4™/2004 low-level driver sources (MEN) for 16Z034_GPIO and 16Z037_GPIO

Software: Linux

13Z025-90 Linux native driver (MEN) for 16Z025_UART, 16Z057_UART and 16Z125_UART

Software: VxWorks

13Z025-60 VxWorks® native driver (MEN) for 16Z025_UART, 16Z057_UART and 16Z125_UART

Software: QNX

13Z025-40 QNX® native driver (MEN) for 16Z025_UART and 16Z125_UART

Documentation

20F216-00 F216 User Manual

21APPN009 Application Note: 16Z025_UART and 16Z125_UART under Linux

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the F216 online data sheet under » www.men.de.

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