

QMC PCIe x4
USER RECONFIGURABLE AMD-XILINX ARTIX ULTRASCALE+ FPGA
20 Channels RS-422/485 OR 40 Channels LVTTTL

Features

- QMC PCI Express x4 lane interface
- QMC 26mm x 78.25 mm
- User-reconfigurable AMD-Xilinx Artix UltraScale+ FPGA
- Up to 20 Pairs RS-422/485 bidirectional channels, 20Mb/s data rate per channel, software-selectable half or full duplex, or Up to 40 Channels LVTTTL
- Software-selectable 120Ω termination
- Software-programmable interrupts for Change-of-State/Level detection
- High Precision User Clock PPB Input on Board
- Optional ARINC-429 Receiver

Block Diagram and Operational Overview

The **QMC-XCAU15P-FPGA** has 40 I/O channels that can monitor or control the on/off (high/low) status of up to 20 differential devices or up to 40 channels LVTTTL, software selectable in groups of 2. Each channel can be used as an input or output. The Input channels can be configured with interrupts to detect a change of state, or level detection of any bit. The RS-422/485 input threshold includes hysteresis for increased noise immunity.

Applications

This is an ideal solution for:

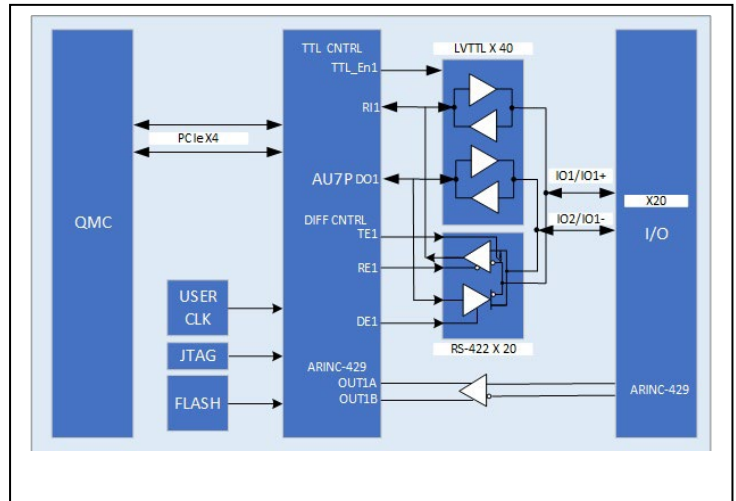
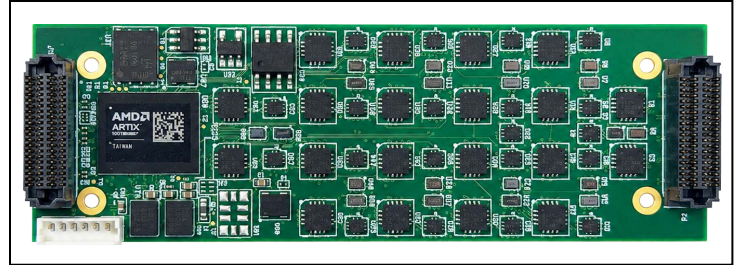
- Process control
- Industrial control
- Precision instrumentation
- Data acquisition systems (DAS)
- Multiaxis positioning systems

Digital I/O Specifications

- Up to 20 channel pairs RS-422/485, or Up to 40 channels LVTTTL
- 20Mb/s data rate per RS422/485 channel
- Optional *High Precision PPB User Clock*
- Half or full duplex and 120Ω on-board termination, software-selectable
- High input impedance supports 256 nodes
- Enhanced ESD protection to ±25kV

Available Software Drivers

- C library dll's
- Linux® drivers



- Windows® drivers
- VxWorks® drivers

Mechanical

- Size: QMC Module (26mm x 78.25 mm)
- Power: 240mA
- Vibration: 0.5G, 20-2000Hz rand
- Shock: 20G, 11ms, ½ sine
- Weight: 10g (0.4oz)
- MTBF: >250,000 hours

Operating Environment

- Operating temperature Industrial: -40°C to +85°C
- Airflow requirement: 5CFM
- Humidity: 5 to 90% (non-cond)
- Altitude: 0 to 10,000 feet

Ordering Information

QMC-XCAU15P-FPGA : **XCAU15P** with 20 Channels differential RS-422/485 or 40 LVTTTL, Industrial Temp: -40°C to +85

QMC-XCAU15P-FPGA-1 : **XCAU15P** 20 Channels differential RS-422/485 or 40 LVTTTL, 1 Ch RX ARINC-429, *High Precision 50MHZ Clock Input*, Industrial Temp: -40°C to +85°C