

**PCIe Mini USER RECONFIGURABLE ALTERA CYCLONE® IV**  
**16 Channels RS-422/485 OR 32 Channels LVTTTL**

**Features**

- User-reconfigurable Altera Cyclone IV FPGA
- Up to 16 Pairs RS-422/485 bidirectional channels, 20Mb/s data rate per channel, software-selectable half or full duplex, or
- Up to 32 Channels LVTTTL
- Software-selectable 120Ω termination
- Software-programmable interrupts for Change-of-State/Level detection

**Block Diagram and Operational Overview**

The **PCIe-Mini-DIO16/32** has 32 I/O channels that can monitor or control the on/off (high/low) status of up to 16 differential devices or up to 32 channels LVTTTL, software selectable in groups of 2. Each channel can be used as an input or output.

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 16 channel pairs RS-422/485, or Up to 32 channels LVTTTL
- 20Mb/s data rate per RS422/485 channel
- 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: Mini PCIe Module 30mm x 50.95mm
- Power: tbd
- Front panel I/O
- No separate transition module required
- Vibration: 0.5G, 20-2000Hz rand
- Shock: 20G, 11msec, ½ sine
- Weight: tbd
- 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**

**PCIe-Mini-DIO16/32:** 16 Channels differential RS-422/485 or 32 LVTTTL,  
 Industrial Temp: -40°C to +85°C