FEATURES

• PCI EXPRESS MINI CARD (mPCIe) TYPE F1, WITH LATCHING I/O CONNECTORS
• FOUR AND TWO-PORT mPCIe RS232 SERIAL CARDS WITH OPTIONAL DB9M CONNECTIVITY
• 500V ISOLATION PORT-TO-PORT AND 1500V ISOLATION PORT-TO-COMPUTER ON ALL SIGNALS
• HIGH PERFORMANCE 16C950 CLASS UARTS WITH 128-BYTE FIFO FOR EACH TRANSMIT AND RECEIVE BUFFER
• SUPPORTS DATA COMMUNICATION RATES TO 921.6KBPS
• VIRTUALLY ANY CUSTOM BAUD RATE MAY BE CONFIGURED BY THE USER VIA REGISTER SETTINGS, NO CUSTOM OSCILLATOR NEEDED
• ±15kV ESD PROTECTION ON ALL SIGNAL PINS
• SUPPORTS 9-BIT DATA MODE
• SUPPORTS CTS AND RTS
• ROHS AND INDUSTRIAL TEMP (-40°C TO 85°C) BOTH Standard

FUNCTIONAL DESCRIPTION

The mPCIe-ICM232 family of cards feature high performance 16C950-class UARTs. Available in 4-port and 2-port versions, each port is capable of communication speeds up to 921.6kbps and has 128-byte deep transmit and receive FIFOs. Large FIFOs protect against data loss in multitasking operating systems, reduce CPU utilization, and improve data throughput, while reducing or eliminating inter-character or inter-packet pauses. The advanced integrated circuit with pre-scalar supports a wide variety of custom baud rates, and any rates not otherwise achievable can be supported via a custom factory-installed crystal oscillator.

The RS232 ports provided by the card are 100% compatible with every other industry-standard serial COM device, supporting TX, RX, RTS, and CTS. In addition, they provide Tru-Iso™ port-to-port and port-to-PC isolation.

Communication is possible either with custom application software, with off-the-shelf applications (such as HyperTerminal), or with provided samples and utilities, including WinRISC™ (“Windows Really Incredibly Simple Communication”).

The serial ports on the device are accessed using a low-profile, latching, 5-pin Hirose connector. Optional breakout cables are available, and bring each port connection to a panel-mountable DB9-M with an industry compatible RS232 pin-out.

SPECIAL ORDER

Please contact ACCES with your precise requirement. Examples of special orders would be custom oscillators, conformal coating, custom software or product labelling, and more. We will work with you to provide exactly what is required.

ACCESSORIES

Available accessories include:

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAB-mPCIe-ICM2</td>
<td>Two port DB-9 cable accessory kit</td>
</tr>
<tr>
<td>CAB-mPCIe-ICM4</td>
<td>Four port DB-9 cable accessory kit</td>
</tr>
<tr>
<td>ADAP-9</td>
<td>DB-9 Screw Terminal Accessory</td>
</tr>
<tr>
<td>mPCIe-HDW-KIT2</td>
<td>2mm mounting hardware</td>
</tr>
<tr>
<td>mPCIe-HDW-KIT2.5</td>
<td>2.5mm mounting hardware</td>
</tr>
</tbody>
</table>

SOFTWARE

A complete driver support package is provided including an easy-to-use Windows terminal program for testing your COM ports. This simplifies the verification of proper COM port operation. The card installs as standard COM ports in all operating systems including DOS, Linux (including Mac OS X) and 32-bit and 64-bit Windows. Additional drivers may be available for a wide variety of operating systems including Windows CE, please contact the factory for compatibility with your specific OS.
**PC Interface**

- PCI Express Mini Card: Type F1 “Full Length” V1.2

**Communications Interface**

- **Connector**
  - I/O: Hirose DF57-5P-1.2V 5-pin, latching
  - Mating: Hirose DF57H-5S-1.2C

- **Serial Ports**: 4 (or 2) RS-232

- **UART**: Quad 16C950

- **FIFO**: 128-byte transmit & receive

- **Baud Rates**: up to 921.6k baud

- **Character length**: 5, 6, 7, 8 bits (contact factory for assistance with 9-bit data)

- **Parity**: Even, Odd, None, Mark, Space

- **Stop Interval**: 1, 1½, 2 bits

- **Flow Control**: RTS/CTS, Xon/Xoff, None

**Environmental**

- **Temperature**
  - Operating: -40°C to 85°C
  - Storage: -65°C to 150°C

- **Humidity**: 5% to 95%, non-condensing

- **Power required**: +3.3VDC @ 1.8W (typical)

- **ESD Protection**: ±15kV on all signal pins (IEC 61000)

**Isolation**

- **Tru-Iso™**: IPC-221B port-to-PC: 1500 V peak (AC or DC)

**Physical**

- **Weight**: 8 grams

- **Size**
  - Length: 50.95mm (2.006”)
  - Width: 30.00mm (1.181”)

- **Temperature**
  - Operating: -40°C to 85°C
  - Storage: -65°C to 150°C

**Careful attention has been paid to isolation design, including extensive keep-out zones and hand-routed circuit paths, as well as component and material selection.**

<table>
<thead>
<tr>
<th>DFS7 Pin</th>
<th>Signal Names</th>
<th>Signal Descriptions</th>
<th>DB-9 Male Pin</th>
<th>Signal Names</th>
<th>Signal Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GND</td>
<td>Signal Ground</td>
<td>1</td>
<td>nc</td>
<td>no connect</td>
</tr>
<tr>
<td>2</td>
<td>TX</td>
<td>Transmit Data</td>
<td>2</td>
<td>RX</td>
<td>Receive Data</td>
</tr>
<tr>
<td>3</td>
<td>RX</td>
<td>Receive Data</td>
<td>3</td>
<td>TX</td>
<td>Transmit Data</td>
</tr>
<tr>
<td>4</td>
<td>RTS</td>
<td>Request To Send</td>
<td>4</td>
<td>RTS</td>
<td>Request To Send</td>
</tr>
<tr>
<td>5</td>
<td>CTS</td>
<td>Clear To Send</td>
<td>5</td>
<td>GND</td>
<td>Signal Ground</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td>nc</td>
<td>no connect</td>
</tr>
<tr>
<td>7</td>
<td>RTS</td>
<td>Request To Send</td>
<td>7</td>
<td>RTS</td>
<td>Request To Send</td>
</tr>
<tr>
<td>8</td>
<td>CTS</td>
<td>Clear To Send</td>
<td>8</td>
<td>CTS</td>
<td>Clear To Send</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>9</td>
<td>nc</td>
<td>no connect</td>
</tr>
</tbody>
</table>

**Ordering Guide**

- mPCIe-ICM232-4: 4-port Isolated RS232 PCI Express Mini Card
- mPCIe-ICM232-2: 2-port Isolated RS232 PCI Express Mini Card

**SHIPS STANDARD WITH INDUSTRIAL OPERATING TEMPERATURE AND ROHS**