

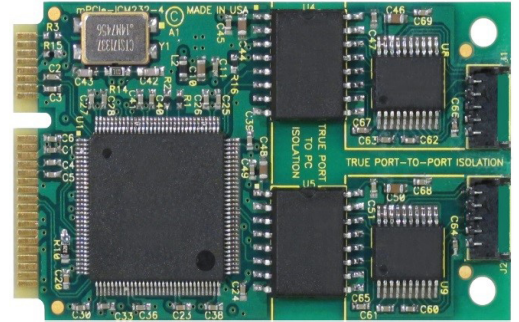


# Isolated Multi-Port RS232 PCI Express Mini Card Data Sheet

## FEATURES

## MODELS mPCIe-ICM232-4 AND mPCIe-ICM232-2

- 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-scaler 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.

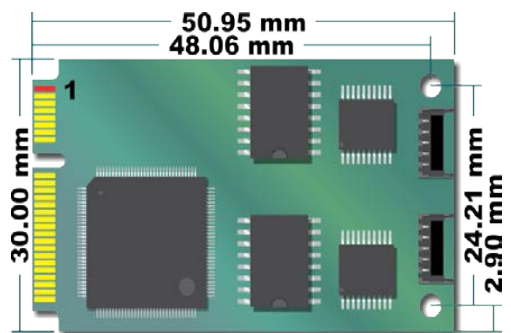
## SPECIAL ORDER

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

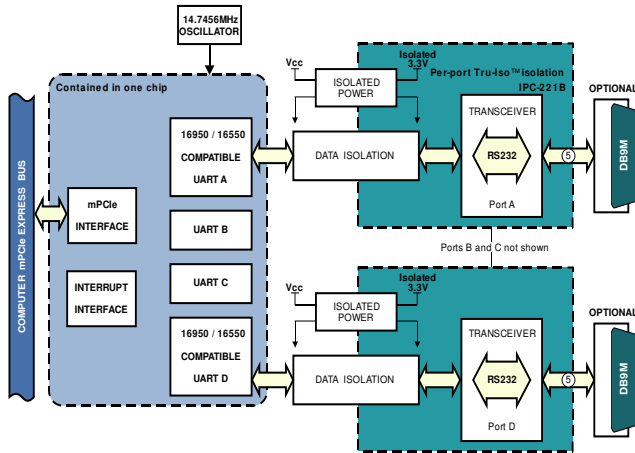
**Available accessories include:**

- |                  |                                    |
|------------------|------------------------------------|
| CAB-mPCIe-ICM2   | Two port DB-9 cable accessory kit  |
| CAB-mPCIe-ICM4   | Four port DB-9 cable accessory kit |
| ADAP-9           | DB-9 Screw Terminal Accessory      |
| mPCIe-HDW-KIT2   | 2mm mounting hardware              |
| mPCIe-HDW-KIT2.5 | 2.5mm mounting hardware            |

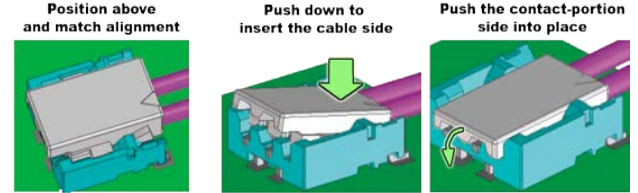


## SOFTWARE

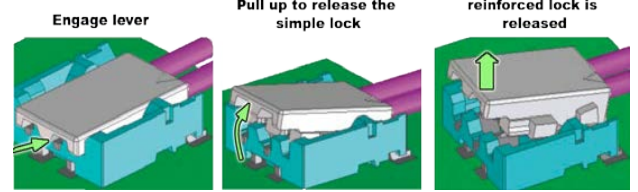
A complete driver support package is provided including an easy-to-use Windows terminal program for testing your COM ports. This simplifies the verification of proper COM port operation. The card installs as standard COM ports in all operating systems including DOS, Linux (including Mac OS X) and 32-bit 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.



**Mating**



**Un-Mating**



**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 advanced-prescaler allows a wide variety of unusual baud rates to be achieved
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° to 85°C Storage -65° 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)

**Physical**

Weight	8 grams
Size	,Length 50.95mm (2.006") Width 30.00mm (1.181")

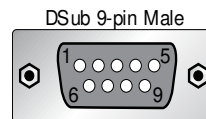
*The 4-port model violates component height restriction on "bottom" side by up to 1.3mm. Confirm your host PC does not place components under the mPCIe footprint before ordering.*

**Isolation**

Tru-Iso™	IPC-221B
	port-to-PC 1500 V peak (AC or DC)
	port-to-port 500 V peak (AC or DC)

*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.*

DF57 Pin	Signal Names	Signal Descriptions	DB-9 Male Pin	Signal Names	Signal Descriptions
1	GND	Signal Ground	1	nc	no connect
2	TX	Transmit Data	2	RX	Receive Data
3	RX	Receive Data	3	TX	Transmit Data
4	RTS	Request To Send	4	RTS	Request To Send
5	CTS	Clear To Send	5	GND	Signal Ground
			6	nc	no connect
			7	RTS	Request To Send
			8	CTS	Clear To Send
			9	nc	no connect



**ORDERING GUIDE**

mPCIe-ICM232-4	4-port Isolated RS232 PCI Express Mini Card
mPCIe-ICM232-2	2-port Isolated RS232 PCI Express Mini Card
<i>SHIPS STANDARD WITH INDUSTRIAL OPERATING TEMPERATURE AND ROHS</i>	

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508  
Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050  
Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28  
Business Registration Number: 07699660