DS-MPE-SER4OPT 4 -Port Opto-Isolated Serial PCIe MiniCard Module

DIAMOND SYSTEMS
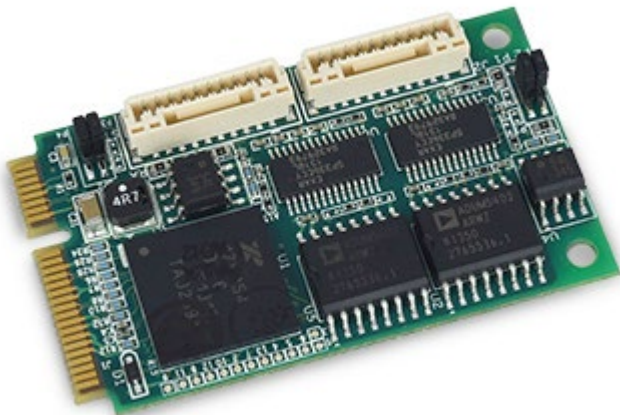
◆ Description

The DS-MPE-SER4OPT is a rugged, low cost 4-port opto-isolated PCIe MiniCard serial module that is ideal for serial I/O expansion in embedded and OEM applications where opto-isolation is needed for safety or for ground loop prevention.
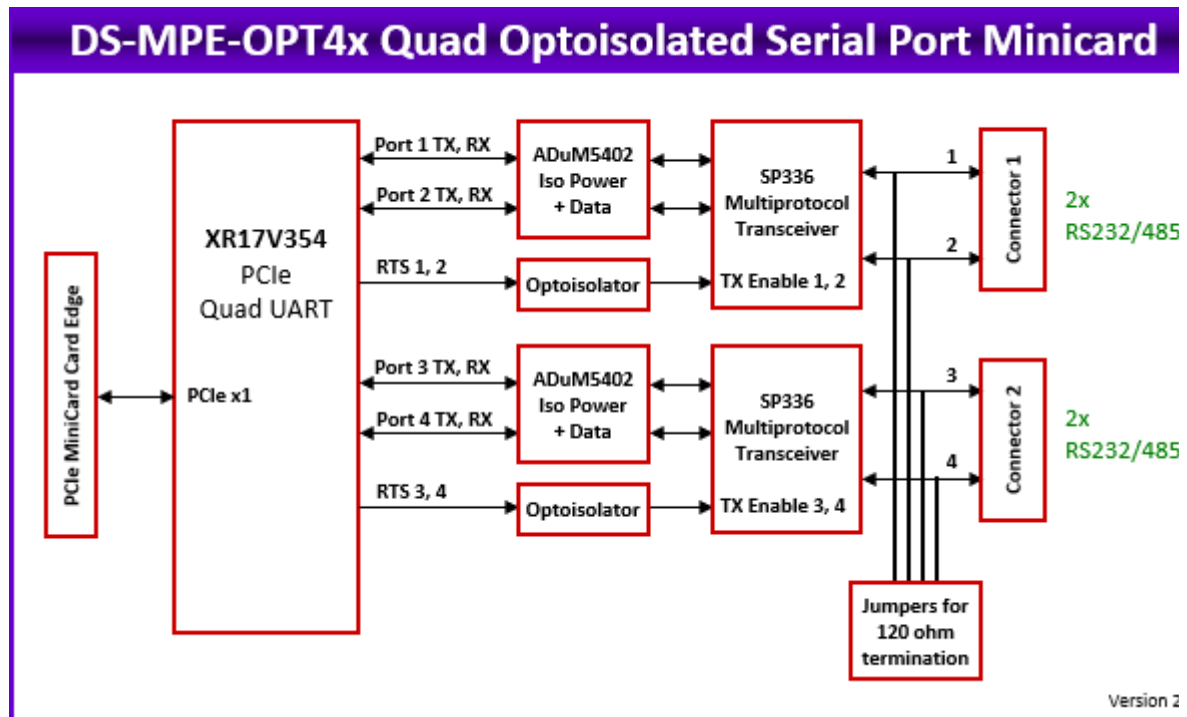
The DS-MPE-SER4OPT offers 4 RS-232/RS-485 opto-isolated serial ports in a PCIe MiniCard form factor. Each port offers 16C550 compatibility and ultra-deep 256-byte

TX/RX FIFOs. Maximum data rates are 1Mbps in RS-232 mode and 10Mbps in RS-485 mode. The board is available preconfigured for 4 RS-232 ports, 4 RS-485 ports, or a combination of 2 RS-232 and 2 RS-485 ports. I/O signals are provided on two miniature latching connectors, with 2 ports per connector.

Each pair of serial ports on the DS-MPE-SER4OPT offers up to 500V isolation from the system ground. Optoisolation increases reliability in applications with long cable runs, where a difference in ground potential can cause significant ground loop currents, damaging non-isolated boards and equipment. Isolation on this miniature board is achieved through a combination of highly integrated isolated power + data components, careful component placement and layout, and a safety-enhancing insulation film on the bottom side, which prevents accidental contact with components on the carrier board.

DS-MPE-OPT4x is designed for rugged environments with latching connectors and extended temperature capability (-40°C to +85°C). In addition, the board may be custom-configured with 0-ohm resistors in place of jumper blocks for increased ruggedness in high-vibration environments.

The DS-MPE-SER4OPT product comes with the 4-port PCIe MiniCard opto-isolated serial module, the CK-SER4M cable kit, and a hardware kit with jumpers and screws.

DS-MPE-OPT4x Quad Optoisolated Serial Port Minicard

PCIe MiniCard Card Edge	XR17V354 PCIe Quad UART PCIe x1	Port 1 TX, RX / Port 2 TX, RX → ADuM5402 Iso Power + Data	SP336 Multiprotocol Transceiver	1 / 2	Connector 1	2x RS232/485
		RTS 1, 2 → Optoisolator	TX Enable 1, 2			
		Port 3 TX, RX / Port 4 TX, RX → ADuM5402 Iso Power + Data	SP336 Multiprotocol Transceiver	3 / 4	Connector 2	2x RS232/485
		RTS 3, 4 → Optoisolator	TX Enable 3, 4			

Jumpers for 120 ohm termination

Version 2

◆ Specifications

Number of serial ports	4
Protocols	RS-232/485 on each port, configured in pairs
Maximum baud rate	RS-232: 1Mbps RS-485: 10Mbps
Termination	RS-485 jumper selectable
UARTs	Quad XR17V354 with PCIe interface
FIFO	256-byte TX/RX
Transceiver	SP336 multi-mode
Isolation	+/-500V input/output
Input power	+3.3VDC +/-5%

Power consumption	0.462W @ 3.3V
Software drivers	Windows 7, XP, Vista, 2000 Linux 2.6.16, 2.6.27, 2.6.31, 2.6.32
Form Factor	PCIe MiniCard full size
Dimensions	50.95 x 30mm (2 x 1.18")
Operating temperature	-40ºC to +85ºC
Operating humidity	5% to 95% noncondensing
MTBF	tbd
Weight	8.5g (0.3oz)
RoHS	Compliant

◆ Models and Accessories

DS-MPE-SER4OPT		
available models:		
DS-MPE-OPT4232	4-port RS-232 PCIe MiniCard Opto-Isolated Serial Module	Available
DS-MPE-OPT4485	4-port RS-485 PCIe MiniCard Opto-Isolated Serial Module	Available
DS-MPE-OPT4M22	2-port RS-232, 2-port RS-485 PCIe MiniCard Opto-Isolated Serial Module	Available
Please **login** or **signup** for an online quote request.		
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