

PCI-COM2S AND PCI-422/485-2

Dual-Port Serial Interface Cards

FEATURES

- Universal PCI, PCI-X, 3.3V and 5V compatible
- Dual-port serial communications card for PCI bus
- Supports RS-232(PCI-COM2S only), RS-422, and RS-485 protocols
- Automatic control of RS-485 driver under Windows systems
- Includes type 16550 UART with 16-byte FIFO buffers
- Baud rates up to 460,800 baud
- Detected as standard COM ports under Windows 9x/NT4/NT2K
- No base address or IRQ switches to set



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PCI-COM-2S

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PCI-422/485-2

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FUNCTIONAL DESCRIPTION

The PCI-COM2S and PCI-422/485-2 are dual-port, asynchronous serial communications cards designed for use in PCI-Bus computers. They are 6.5 inches (165 mm) long and may be installed in any 3.3V or 5V PCI or PCI-X slot. Each independent port supports RS-422 and RS-485 balanced-mode transmission/reception, and on the PCI-COM2S, RS-232 single-ended transmission/reception as well. Each port of the PCI-COM2S and PCI-422/485-2 has the capability to add bias voltage. (RS-485 communication requires that one transmitter in the network must supply a bias voltage to ensure a known "zero" state when all transmitters are OFF). Also, receiver inputs at each end of the network should be terminated to eliminate ringing. The PCI-COM2S and PCI-422/485-2 support these options by means of jumpers on the card.

Type 16550 UARTs are used as the asynchronous communication elements. These include a 16-byte transmit/receive FIFO buffer to protect against lost data in multitasking systems while maintaining 100 percent compatibility with the original IBM serial port. A crystal oscillator is located on the card and permits precise baud rate capability up to 115,200. Higher baud rates, up to 460,800 baud, are achieved by changing a jumper on the card. The driver/receivers used, type 75ALS180, are capable of driving extremely long communication lines at high baud rates. They can drive up to ± 60 mA on balanced lines and receive inputs as low as 200 mV differential signal superimposed on common mode noise of +12V to -7V. In case of communication conflict, the driver/receivers feature thermal shutdown.

When the card is first installed your operating system should automatically detect and configure the two COM ports for immediate use.

RTS AND AUTO TRANSCEIVER CONTROL

In RS-485 communications the driver must be enabled when needed and then disabled to permit all cards on the network to share a two-wire or four-wire cable. The PCI-COM2S and PCI-422/485-2 cards have two methods to control the driver: automatic (AUTO) and request-to-send (RTS) control. Under automatic control, the driver is enabled (and the receiver disabled) when data are ready to be transmitted. When transmission is complete, the driver remains enabled for the transmission time of one additional character and then is disabled. The card automatically adjusts its timing to the baud rate of the data. (NOTE: For use in half-duplex mode under Windows, PCI-COM2S must be operated in the AUTO mode.) In the RTS mode, application software must set a bit to enable the driver and reset that bit to disable the driver.

Specifications

Communications Interface

- I/O Connection: 9-pin male D-sub connectors.
- Serial Ports: Two shielded male D-sub 9-pin IBM AT style connectors compatible with RS-232(PCI-COM2S only), RS-422 and RS-485 specifications.
- Character length: 5, 6, 7, or 8 bits.
- Parity: Even, odd or none.
- Stop Interval: 1, 1.5, or 2 bits.
- Serial Data Rates: Up to 115,200 baud, Asynchronous, Asynchronous. A faster range of rates, up to 460,800 baud, is achieved by jumper selection on the card. Type 16550 buffered UART.

Caution: The OUT2 bit of the UART must be set low for proper interrupt driven communication. This bit enables or disables the interrupts and the card will not communicate if the bit is pulled high.

RS-232 Drivers(PCI-COM2S Only)

- Device: 75C185 Quad Line Transceivers
- Output Voltage: ± 6 VDC minimum, current limited to 10 mA.
- Receiver threshold: 1.5V high, 0.75 low, Maximum input ± 30 VDC

RS-422/RS-485 Differential Communication Mode

- Multipoint: Compatible with RS-422 and RS-485 specifications. Up to 32 drivers and receivers allowed on line. Serial communications ACE used is type 16550. Driver/Receivers used are type 75ALS180.
- Receiver Input Sensitivity: ± 200 mV, differential input.
- Common Mode Rejection: +12V to -7V
- Transmitter Output Drive Capability: 60 mA, with thermal shutdown.

Environmental

- Operating Temperature Range: 0° to +60° C
- Humidity: 5% to 90%, non-condensing.
- Storage Temperature Range: -50° to +120° C
- Power Required: +5VDC at 125 mA typical, -12VDC at 5 mA typical, +12VDC at 5 mA typical, 750 mW total power consumption.
- Size: 6 1/2" long (165 mm) by 3 7/8" (99 mm)

Regulatory Compliance

Declaration of Conformity, and Test Reports are on file. Users must use appropriate shielded cables.

Part Number	Price(USD)
PCI-COM-2S	209.00
PCI-422/485-2	179.00

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