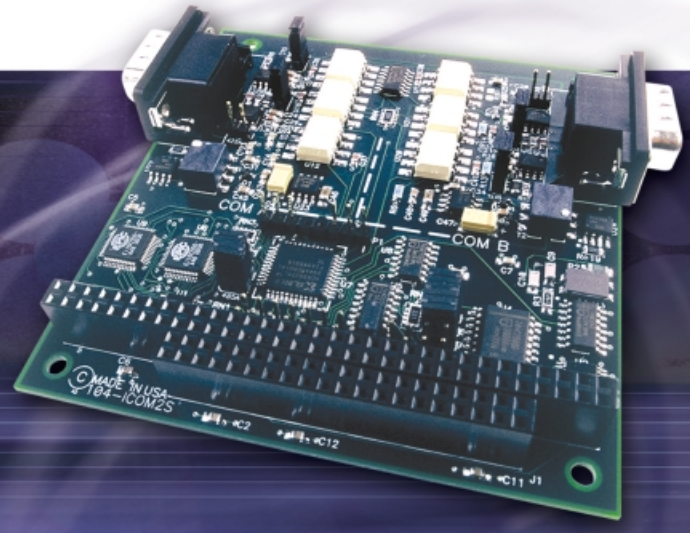
Dual Port

PC/104 Isolated RS-422/485 Serial Communication



KEY FEATURES:

- 2 independent optically-isolated asynchronous serial COM ports
- Field-selectable RS-422 and RS-485 for each port
- Auto-RTS feature makes half-duplex RS-485 communications effortless
- Fixed bias and jumper selectable termination provided on each transmit and receive channel simplifies cabling
- Speeds up to 115.2K
- Operates as a standard COM port in all operating systems

FACTORY OPTIONS:

- 16850 UARTS with 128-byte FIFO
- Speeds up to 460.8K
- 0 to 60°C and -40 to +85°C versions available

The Model 104-ICOM-2S is a rugged, low cost dual-port PC/104 serial communication board featuring 60V optical isolation. Optically isolating the serial data lines from each other, and from the computer, assures smooth, error-free data transmission even in noisy, real-world environments. The two serial ports are based on the 16C550 UART with a 16 byte FIFO, useful for high-speed communications and in any operating system. The ports are available via two DB9 Male connectors with jack screws to eliminate vibration worries in harsh environments and applications.

Each port's protocol (RS-422 or RS-485) is selected by jumpers on the board. Two- and four-wire communications are possible including four-wire RS-485 communication. Bias is provided as a standard on the transmit and receive lines, whereas termination is jumper selected, which can simplify system architecture by eliminating some of the need to install resistors in the field cabling system.

SOFTWARE

The 104-ICOM-2S is supported by all operating systems and includes a free DOS, Linux and Windows 95/98/Me/NT/2000/XP compatible software package. This includes sample programs and source code in "C" and Pascal for DOS, and Visual Basic, Delphi, C++ Builder, and Visual C++ for Windows. Also included is a graphical setup program in Windows. An easy-to-use Windows terminal program simplifies verification of proper operation.

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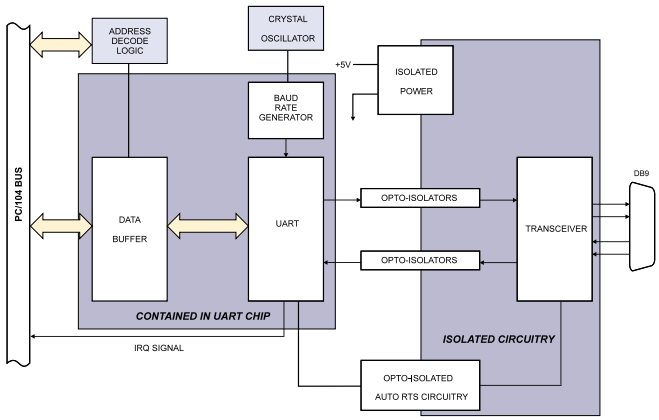
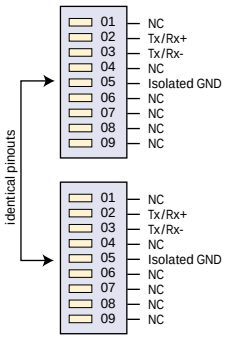
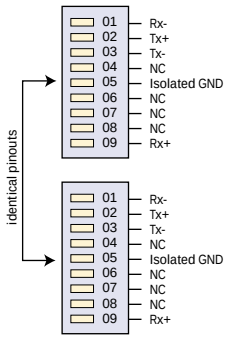
Block Diagram & Pin Configuration



RS-485 Two-Wire



RS-422 Four-Wire



Specifications

Serial Ports

Number of serial ports	2, optically isolated
Protocol	RS-422 and RS-485, independent for each port
Maximum baud rate	115.2K with factory option for 460.8K
UART	16C550 with 16 byte FIFO, optional 16850 with 128-byte FIFO
Character length	5, 6, 7, or 8 data bits
Parity	Even, odd, or none
Receiver input sensitivity	±200mV differential input. Lines include factory bias and jumper selectable termination.
Common mode voltage range	+12V to -7V
Transmitter output drive capability	60mA with thermal shutdown. Lines include factory bias and jumper selectable termination.
Isolation	60V between all data lines and ground

General

I/O connections	Via two male DB9s with screws for cable connector retention
Short circuit protection	All outputs protected against continuous short circuit
Power required	+5VDC at 200mA typical, all outputs open
Operating temperature	0 to +60°C, optional -40 to +85°C
Storage temperature	-50 to +120°C
Operating humidity	5% to 95% RH, non-condensing
PC/104 bus	8-bit and 16-bit bus headers are used

104-ICOM-2S	2 port isolated RS422/485
104-422/485-2	2 port RS422/485 board (non-isolated)

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