

## FEATURES

- Four-port serial communications adapter for USB 1.1 and USB 2.0 host ports
- Supports field selectable RS-232, RS-422 or RS-485 protocols, per port
- Includes type FT232BM UART with 384-byte receive/128-byte transmit FIFO buffers
- Speeds up to 921.6kbps simultaneously in RS-422/485 modes
- Power LED and individual port activity LEDs next to the USB and each COM connector
- All required power drawn from USB port, no external power adapter required
- Compact, low profile enclosure

## FACTORY OPTIONS

- RS-232 only version
- Extended Temperature Operation
- -OEM Board only version with no enclosure
- -RoHS Available in a RoHS compliant version

## APPLICATIONS

- Multiple POS peripherals
- Barcode scanners
- Scales
- Date-entry terminals
- Data acquisition and automation modules



## FUNCTIONAL DESCRIPTION

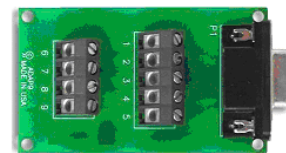
The USB-FLEXCOM4 is a flexible serial communications adapter that was designed for effective multipoint transmission in any one of three modes on each channel. These modes are RS232, RS422 and RS485 (EIA485) protocol. An RS-232 only version is also available as model USB-COM232-4A.

## OEM USB/104 FORM FACTOR

The OEM (board only) version is perfect for a variety of embedded applications. What makes the OEM option unique is that its PCB size and mounting holes match the PC/104 form factor (without the bus connections). This allows our rugged USB to quad-serial port board to be added to any PCI-104 or PC/104 stack by connecting it to a simple USB port usually included on-board with embedded CPU form factors such as EBX, EPIC, and PC/104. This is especially important since many newer CPU chipsets do not support ISA and have plenty of USB ports. The USB-FLEXCOM4 OEM board can also be installed using standoffs inside other enclosures or systems.

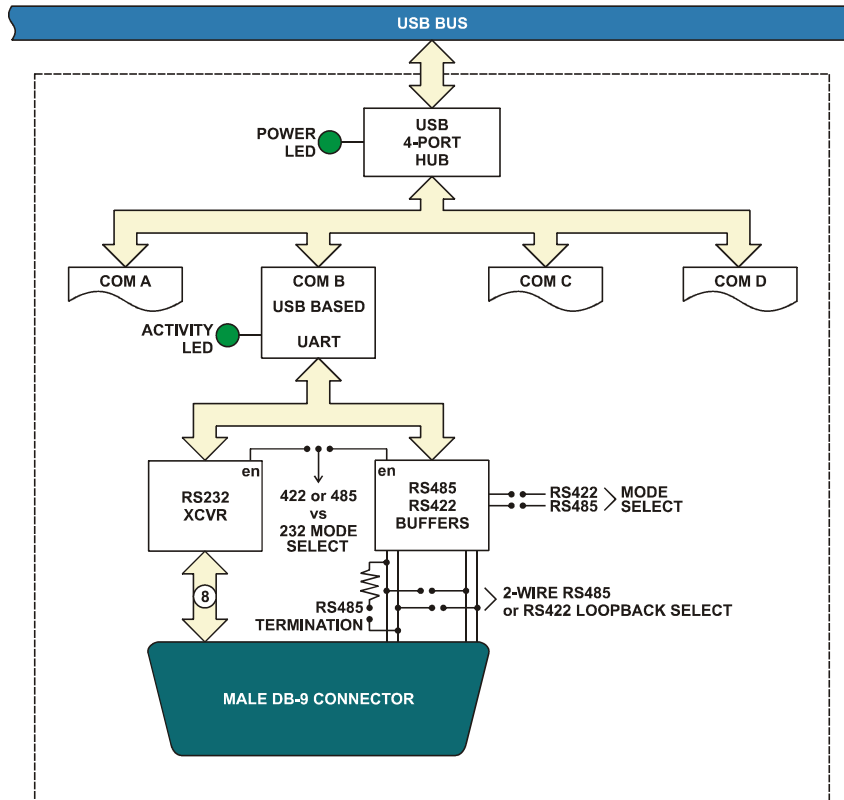
## ACCESSORIES

The modules are available with optional cable assemblies and screw terminal adapter board ADAP9.



## SOFTWARE

The USB-FLEXCOM4 is plug-and-play which allows quick connect or disconnect whenever you need additional I/O on your USB port. The module utilizes a high-speed custom function driver optimized for a maximum data throughput that is 50-100 times faster than the USB human interface device (HID) driver used by many competing products. This approach maximizes the full functionality of the hardware along with capitalizing the advantage of high-speed USB 2.0. The USB-FLEXCOM4 is supported for use in most USB supported operating systems and includes a free Linux and Windows 98se/Me/2000/XP/2003 compatible software package. This package contains sample programs and source code in Visual Basic, Delphi, C++ Builder, and Visual C++ for Windows. Also incorporated is a graphical setup program in Windows. Third party support includes a Windows standard DLL interface usable from the most popular application programs. Embedded OS support include Windows Xpe.



**BLOCK DIAGRAM**

**SPECIFICATIONS**

**Communications Interface**

Serial Ports: COM A through COM D via four male DB9 connectors  
 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 921.6k for RS-422 and RS-485 modes, asynchronous  
 RS-232 speeds up to 230.4kbps.

Receiver Input Sensitivity: +200 mV, differential input  
 Common Mode Rejection: +12V to -7V  
 Transmitter Output Drive: Up to 60 mA, with thermal shutdown

**Bus Type**

USB 2.0 Full-Speed  
 USB Connector: Type B, high-retention  
 Embedded USB Connector: 5-pin header, Molex part number 53047  
 Mating connector housing is Molex part number 51021 0500

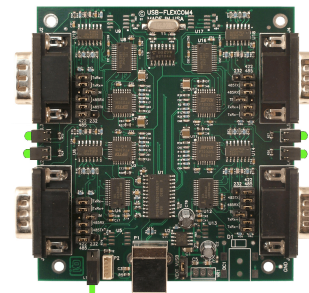
**Environmental**

Operating Temperature: 0 °C. to +60 °C (Extended ope rating temperature version -40 °C to +85 °C)  
 Storage temperature: -50 °C. to +120 °C  
 Humidity: 5% to 95%, non-condensing  
 Power Required: Model USB-FLEXCOM4 5VDC at ~110mA (plus loads up to an additional 240mA) from USB  
 Model USB-COM232-4A 5VDC at ~70mA with no load (with all ports communicating ~135mA)

Size: Board Dimension: 3.550 x 3.775 inches (PC/104 size & mounting)  
 Box Dimension: 4.00 x 4.00 x 1.25 inches

**Ordering Guide**

USB-FLEXCOM4 USB to four port RS-232/422/485 serial adapter  
 USB-COM232-4A USB to four port RS-232 serial adapter



**-OEM VERSION**

DB-9 Male Pins Ports A-D	RS-232 (Industry Standard)	RS-485 (2 Wire)	RS-422 (Also 4wire RS485)
Ch x - 1	DCD		RX-
Ch x - 2	RX	TX+/RX+	TX+
Ch x - 3	TX	TX-/RX-	TX-
Ch x - 4	DTR		
Ch x - 5	Gnd	Gnd	Gnd
Ch x - 6	DSR		
Ch x - 7	RTS		
Ch x - 8	CTS		
Ch x - 9	RI		RX+

**Pinout Table**