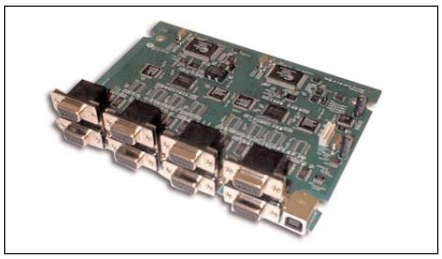
High Speed USB Serial Adapters - Embedded Models

Board-level solutions with standard serial ports via USB 2.0



Embedded High Speed USB 2.0 Serial Adapters for custom enclosures

If you're looking to seamlessly connect multiple serial peripherals via a single USB port in a custom enclosure, try Quatech's Embedded High Speed USB 2.0 Serial Adapters. These reliable units use the same technology as our external products but enable manufacturers and integrators to easily incorporate multiple serial interface devices such as keypads, displays, card readers and printers, into custom enclosures that lack native serial support.

As a special convenience, Quatech USB Serial Adapters provide standard serial ports without requiring the replacement of peripheral hardware or application software.

Available with one, four or eight independent ports, the small footprint boards have built-in surge suppression at each serial port, necessary for maximum reliability and robustness. Mounting holes allow easy installation into cabinets and kiosks. For maximum flexibility, each port on the 400 models can be configured as RS-232, RS-422 or RS-485 in any combination, meaning a single adapter can be used to implement multiple full-duplex and half-duplex multi-drop networks.

Connect serial peripherals with USB 2.0 Serial Adapters

You can now broaden the range of external peripherals used on your computer at higher speed rates than the USB 1.1 series, with the introduction of USB 2.0 Serial Adapters. The USB 2.0 has more bandwidth that allows higher data rates on the serial ports for more efficiency.

The new embedded USB Serial Adapter gives you the ability to communicate between a USB port and up to eight RS-232, RS-422, or RS-485 serial peripherals. It adds the COM port(s) via its USB connection and is compatible with new and legacy RS-232 or RS-232/422/485 devices. USB Embedded Serial Adapters are the ideal solution for a variety of industries and applications including banking, retail and industrial automation where PCs have a significantly shorter lifecycle than the peripherals that use them.

Building on the success of the previous versions, the new generation of Quatech USB Serial Adapters hit speeds of up to 921.6 kbps, 1024-byte FIFO and hardware and software flow control.

Quatech Embedded USB Serial Adapters enumerate themselves as standard COM ports that are compatible with all standard RS-232 or RS-232/422/485 devices and software created for them. With the industrial surge suppression standard, you can safeguard the USB Serial Adapter when implementing USB-to-serial networks in factories, power plants and other potentially harsh industrial environments. USB 2.0 is fully compatible with USB 1.1 devices. The older devices work with the new bus, and vice versa.

The 400 Series models introduce the software-selectable RS-232/422/485 (MEI or Multi-Electrical Interface). The MEI capability is available on all ports at the click of a mouse. LEDs visually tell you which ports are using which protocol, so go ahead, mix and match.

KEY FEATURES

- Board-level solutions with mounting holes for custom enclosures
- 1, 4 or 8 independent serial ports
- RS-232 or software-selectable RS-232/422/485
- Compatible with USB 1.1
- Plug-and-play capability
- Devices enumerate themselves as standard COM ports
- Speeds up to 921.6 kbps
- High speed UARTs with 1KB FIFOs to boost data rates
- Standard surge suppression package
- Full modem control and hardware and software flow control
- Bus powered: no external power required
- External units also available
- Windows 2000/XP/Vista
- RoHS compliant
- 5 year warranty

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QUATECH
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HIGH SPEED USB SERIAL ADAPTER SPECIFICATIONS (VERSION 2.0)

Ordering Information

Model	Ports	Interface
SSU2-100-EMB	1	RS-232 with cable
QSU2-100-EMB	4	RS-232 with cable
QSU2-400-EMB	4	RS-232/422/485 with cable
ESU2-100-EMB	8	RS-232 with cable
ESU2-400-EMB	8	RS-232/422/485 with cable

Bus Interface
USB 2.0 High Speed

OS Support
Windows 2000/XP/Vista
Linux support coming soon

Data Rate
Up to 921.6 kbps (max)

Serial Ports Provided
SSU: 1 **QSU:** 4 **ESU:** 8
(For 400 models, each configurable as RS-232, RS-422 or RS-485 for full or half duplex communication)

USB Ports Required
SSU: 1 **QSU:** 1 **ESU:** 1

UARTS
1024-byte FIFOs for transmit and receive

Transceiver (RS-232/422/485)
MAX491 or compatible

Differential Driver Output (50Ù Load):
+2V (min), +3.3V (max)
Differential Driver Output (27Ù Load):
+1.5V (min), +3.3V (max)

High Input: +2V (min)
Low Input: +0.8V (max)
Driver Rise/Fall Time: 5ns (min), 20ns (typ), 25ns (max)
Driver Input to Output Delay: 20ns (min), 40ns (typ), 60ns (max)
Receiver Input to Output Delay: 40ns (min), 70ns (typ), 100ns (max)

RS-232 Output
Voltage Swing: ±5V (min), ±5.4V (typ)

RS-232 Input
Voltage Range: -15V (min), +15V (max)
Input Threshold Low: 0.6V (min), 1.0 (typ)
Input Threshold High: 2.4VV (max), 1.5 (typ)

IND Option: Surge suppression applied to each line that is capable of sustaining up to 40A peak, 8 x 20ìs transient surges, a clamping voltage of 30V and a peak energy dissipation of 0.1 Joules.

(NOTE: The "IND" option limits data rate to 115.2 kbps)

Environment
Operating: 0° to 70°C
Storage: -50° to 80° C
Humidity: 10% to 90%

Power Requirements
Bus-powered device, no external power supply required

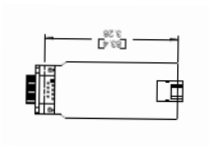
Suspend power: < 500 ì A
Unconfigured power: < 100 mA
Configured power: < 500 mA

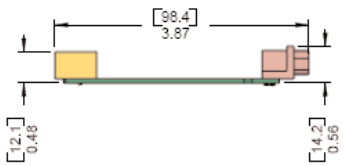
Size
SSU: 0.56" H x 3.87" W x 3.28" D
QSU: 0.56" H x 6.90" W x 4.00" D
ESU: 1.31" H x 6.52" W x 4.80" D

Connectors
DB-9 male

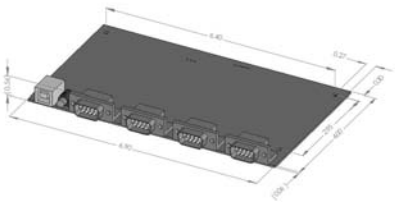
Certifications
CE, FCC Class B, RoHS & WEEE Compliant

Board Layout for SSU Model

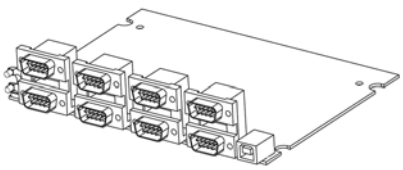


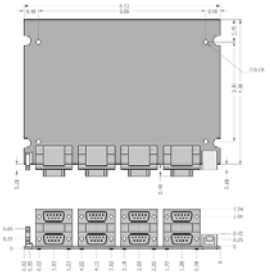


Board Layout for QSU Model



Board Layout for QSU Model





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