## Interface your UART/RS232/RS422 device on the network

UART is a serial two (or more) wires bus that allows asynchronous bidirectional data communication between two devices. Because no clock signal exists on the bus, the speed (baud rate) must be specified at each side to the same value. Standards rates are: 9600, 19200, 38400, 54600 and 115200 bits/seconds (bauds). Each byte is mostly preceded by one start bit and followed by 1 stop bit. 2 bits are so added to each byte on the bus. To allow flow control, two wires can be added (CTS, RTS) in order to stop transmission when the other device is busy. The following figure shows the signals used to communicate between two UART Devices:
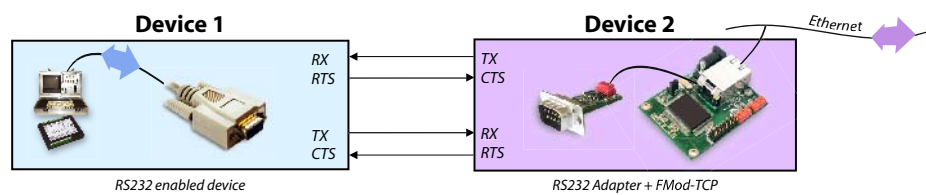
The UART bus of the FMod-TCP can be used to connect to:

1) Another UART device.
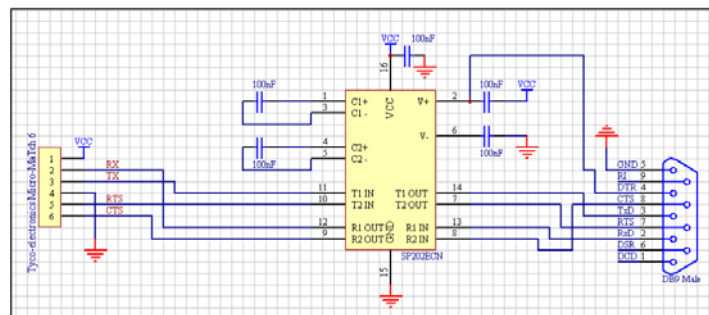**2) RS232 devices through a RS232 line driver** (Maxim MAX232 or Sipex SP202).

Figure 1 : Example of an RS232 adapter with hardware flow control using Sipex SP202ECN device.

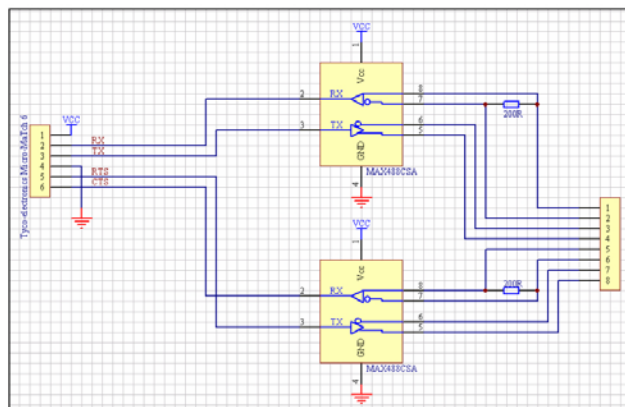**3) RS422 devices through a RS422 differential line driver** (Maxim MAX488).

Figure 2 : Example of an RS422 adapter with hardware flow control using two MAX488 devices

Thanks the port is fully transparent, any byte sent to it will be simply forwarded to the connected device. You can so use the FMod-TCP as a simple bridge.