Expanding Datalogger Serial Ports

The new generation of dataloggers include an RS232 9-pin serial port in addition to the CSI/O port of the older generation. This allows the datalogger to connect directly to other manufacturers' serial devices without the need for an interface.

The RS232 port also provides an extra port to connect a laptop or cell phone modem to if the other is tied up with other hardware. For example a modem may be connected to the RS232 port, and the CS I/O could be used to connect a laptop to the datalogger without removing the modem.

In addition to the RS232 port, the new generation of dataloggers (with the exception of the CR200) can be configured to have up to 4 more RS232 ports using the control ports.

RS232 signals are transferred using 3 wires; a transmit line (Tx), a receive line (Rx) and a reference line. The control ports of the datalogger can be configured to act as the transmit and receive lines, and a ground can be used for a reference line.

Female DB9 **Male DB9**

To use these ports with another device which requires an RS232 connector, a straight through RS232 cable can be cut in half, with the female end used to connect to DTE devices such as a computer and the male end used to connect to DCE devices such as a modem.

Pin	Function	CR1000 Port (DTE)1	CR1000 Port (DCE)2
2	DTE Rx	C1, C3, C5, C7 [Tx]	C2, C4, C6, C8 [Rx]
3	DTE Tx	C2, C4, C6, C8 [Rx]	C1, C3, C5, C7 [Tx]
5	GND	G	G

1. Use these control ports to connect the female end of a serial cable to the datalogger to communicate with a DTE device such as a computer.

2. Use these control ports to connect the male end of a serial cable to the datalogger to communicate with a DCE device such as a modem.

Before the newly added serial port can be used, it needs to be configured with a baud rate; this is done in Device Configuration Utility on the Ports and Settings page.

Select the appropriate comm port from the "Select the Port" box, and then select the desired baud rate. This will depend on what is being connected to the datalogger. In general, use 115200 for laptops running Campbell Software and cell phone modems. For other devices such as modbus sensors and other types of serial output sensors, this baud rate will be specified in the sensor manual and additional programming will be needed to read the data from the sensors.