ib technology

Data Sheet

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## Micro RWD communication using 2-wire RS232

The Micro RWD modules use pins 22, 23 and 24 (RX, TX, CTS) as a 3-wire serial interface for communication with a host computer or microcontroller. The CTS signal is normally high and goes LOW for a brief period each polling cycle to signal that the RWD module is ready to receive commands and data. When the CTS signal is HIGH, the RWD module is fully occupied with RF communication and data processing and so cannot receive host command/data.

When the CTS signal is low the host computer must send the command (and associated data) as sequential bytes with no gaps between them otherwise the "receive" function times out and the CTS goes high prematurely to begin the polling delay period and then the next polling cycle.

The CTS low pulses are separated by the polling delay period.

If the RX, TX and CTS signals are connected to a host computer UART (COM port) via an RS232 level converter (such as MAX202 or similar) the signals are inverted and the CTS signal provides standard "hardware handshaking" so software programs can handle the communication easily.
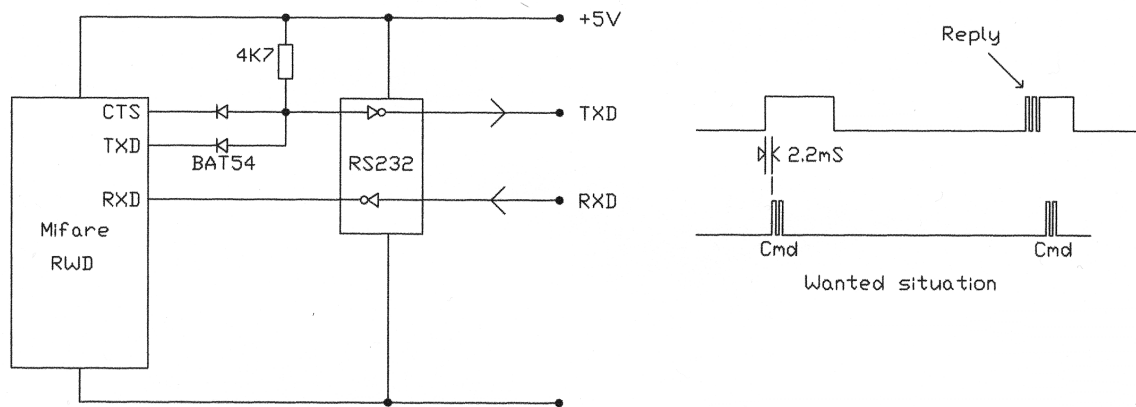
Note the inversion of signals through the RS232 level converter device (such as MAX202)

For applications that only have two communication signals available (TX and RX), the CTS signal must be combined with the TX signal in some way so that the host software program can determine when the RWD module can receive data. The diagram above shows a common method for achieving this.

The CTS signal is combined with the TX signal using diodes as shown. The software program must monitor the "combined" TX signal and wait for a LOW period. The command can then be transmitted to the RWD and the reply received afterwards in the usual manner.