BitWise controls

TM

Tech Note: Communicating With a BC4

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Introduction

BC4 Communications

The BC4 was designed to communicate with virtually any IP- or RS232-enabled host control system. To facilitate this, we've built a comprehensive two-way command protocol (complete documentation is available at www.bitwisecontrols.com/support), and provided multiple ways to implement it.
The BC4 can be communicated with via the following:

- TCP/IP
- UDP
- HTTP POST/GET
- RS232

While the basic command protocol packet structure is identical no matter which method you choose, there are a few important things to know about each one.

Communication Methods

TCP/IP

The BC4 can accept a TCP/IP client connection on a user configurable port. The factory default TCPPORT setting is 5001. Most host systems will use this protocol, as it is a "connected" and therefore more reliable protocol than UDP.

Important note: All TCP communications should use a CR (carriage return) to specify the end of a packet. This is useful, because it allows configuration changes to be made via a standard telnet session.

UDP

The BC4 is capable of communicating with host systems via UDP, and has user-configurable settings for UDPINPORT and UDPOUTPORT. These are factory defaulted to 5200 and 5201 respectively, but can be reconfigured to suit your needs.

HTTP POST/GET

The BC4 supports commands and responses via the HTTP protocol using the POST and GET methods. This allows you to control and monitor the BC4 via a simple or complex web application using popular methods such as Javascript, Flash and AJAX. Application specific details are beyond the scope of this document but we provide some examples on our web site

using Javascript and AJAX. A simple test of this functionality is to open a web browser and enter in the address bar:

http://ip_address_of _your_BC4/bwc.xml?bwc=bwc:set:relay:1:1:

Relay 1 will engage (if it wasn't already engaged) and you will get the response in the form of an XML file. You can send any valid command packet using this format.

If you are using the POST method via a form, the file to post to is bwc.cgi. If using the GET method, the file to get is bwc.xml.

RS232

If the BC4 has a BCX module which provides a serial port (such as the BCX-1), you may configure the serial port to support host commands and responses by setting the TCP (telnet) port to "0". Note that host command support is only available on serial port 1 if the BCX module has more than one serial port.