



TM

Tech Note: BC4 and Remote Access



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www.bitwisecontrols.com

Phone: 866-932-2BWC

Introduction

Remote Communications

It may be desirable to allow the BC4 to communicate with a host system via the internet, instead of on the local network. To do so, you must ensure that all of the necessary ports are being forwarded by your router(s). This will allow the remote host system to communicate with your BC4's private IP address by way of your internet connection's public IP address. It's a good idea to give the BC4 a static IP address on your local network.

Port Forwarding

TCP

By default, the BC4 uses TCP port 5000 for command protocol communication with the host system. You must make sure that your router is forwarding incoming requests on port 5000 (or whatever port you have configured the BC4 to use) to the BC4's private IP address. You must also set your router to forward the BC4 serial port TCP port number to the BC4's private IP if you wish to use the BC4 serial port over the internet.

UDP

The BC4 is also 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. Port forwarding for remote UDP communications is slightly more complex than TCP port forwarding. This is because ports need to be forwarded on both the BC4 –side router, and the remote host system's router, since UDP is a "connection-less" protocol. The BC4- side will need to have all UDP traffic on the BC4's UDPINPORT number forwarded to the BC4's private IP address. The BC4 will also need to know the public IP address of the host system so that it will know where to send UDP packets. To do this, use the "bwc:set:udpsento:<IP>:" command.

*Note that the UDPSENDTO address is not persistent, and will need to be reset every time the BC4 is power-cycled.

Example

This table uses the default BC4 port numbers to illustrate what ports need to be forwarded

Description	PORT	PROTOCOL	LOCAL ROUTER	REMOTE ROUTER
BC4 command protocol socket	5000	TCP	Forward to BC4 private IP	NA
BC4 incoming command protocol socket	5200	UDP	Forward to BC4 private IP	NA
BC4 outgoing command protocol socket	5201	UDP	NA (don't forget to set BC4 UDPSENDTO to the Host's public IP)	Forward to Host private IP
BC4 Serial Port 1	5001	TCP	Forward to BC4 private IP	NA

*NA = Not Applicable