

# BitWise controls

TM

## BCX-1 Users Guide



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[www.bitwisecontrols.com](http://www.bitwisecontrols.com)

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## Contents

BCX-1 Users Guide .....	1
Introduction .....	2
Overview.....	3
Features.....	3
Connections Panel .....	4
Installing the BCX-1 Expansion Module .....	5
Configuration and Usage .....	6
Resources .....	6
Contact Information.....	6

# Introduction

## *Overview*

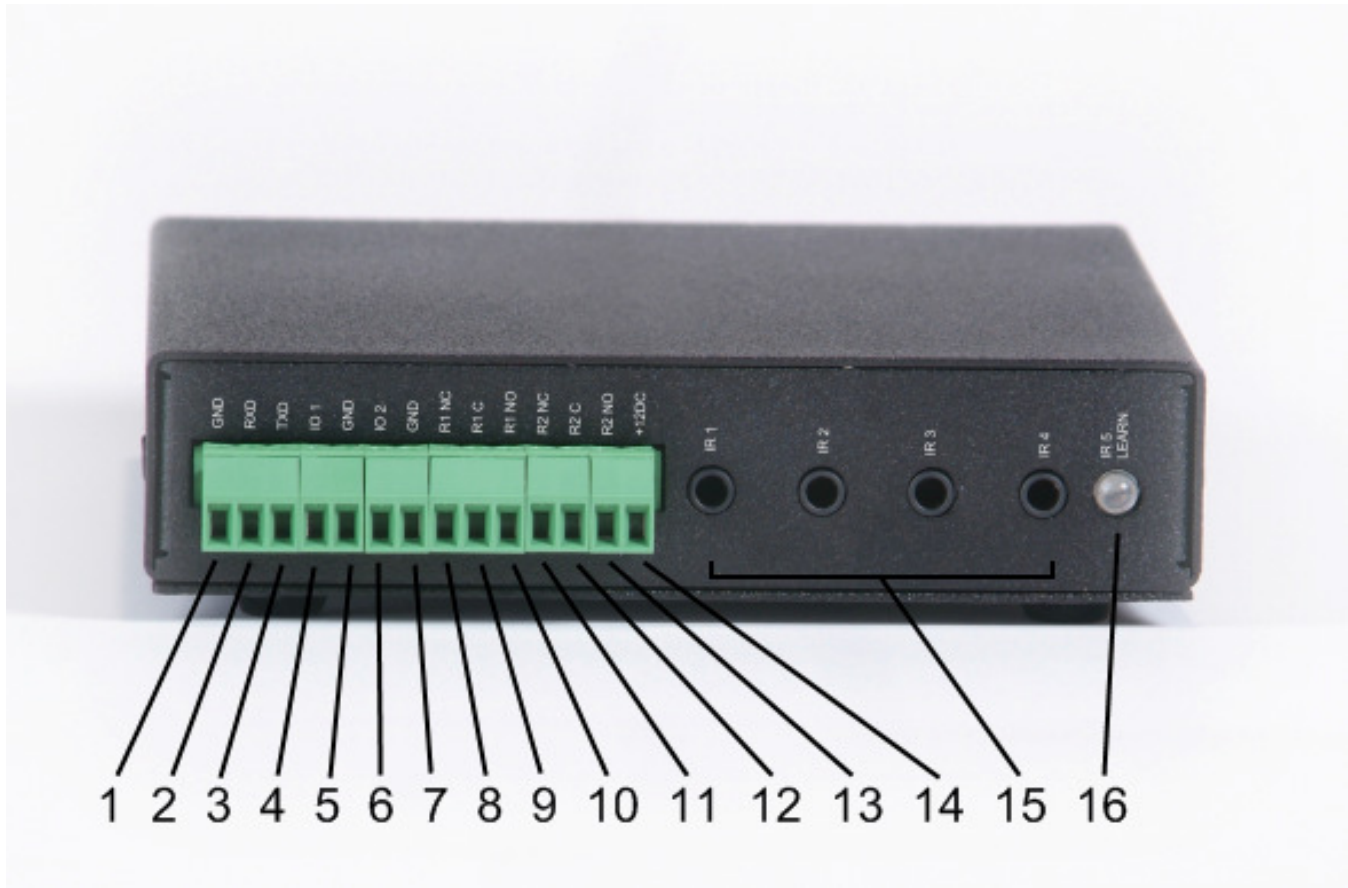
The BCX-1 is an expansion module designed to be installed in a BitWise Controls BC4 network-enabled. When you plug the BCX-1 expansion module into the BC4, the BC4 automatically senses which module was installed, and configures itself accordingly. That's when the unique power of our command protocol comes into play.

We've spent considerable time and energy ensuring that our two-way command protocol is as complete and robust as we can make it, while maintaining ease of use. Our protocol includes get/set commands for all device settings and hardware control, as well as polled and asynchronous status reporting. Download our communication protocol document to see how complete and easy to use our protocol truly is. And since the BC4 has field-upgradeable firmware, you'll always have access to the most recent features and updates.

## *Features*

- One Three-wire RS232 port with dedicated TCP socket
- Two highly configurable GPIO ports
- One internal counter/frequency input measure activity on GPIO 1
- Two SPDT Relays
- Extensive on-board IR library with built-in learner
- Five independently route-able IR outputs (4 emitter ports, one blaster)
- Built-in temperature sensor
- Fully configurable via TCP, UDP, or Telnet

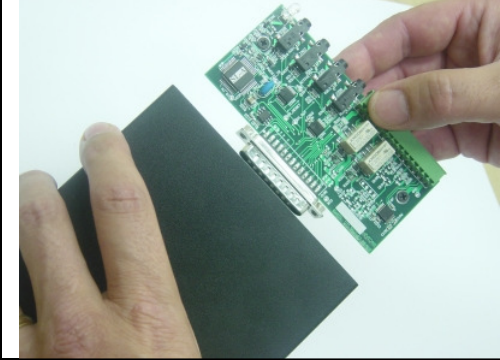
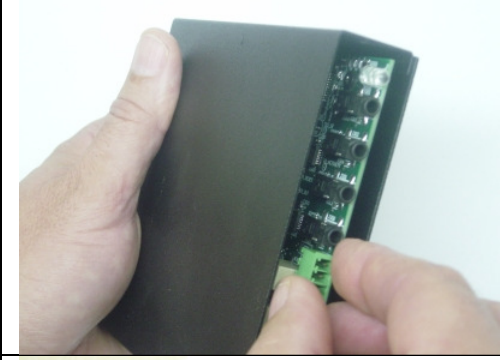

## Connections Panel



1. RS232 Ground	
2. RS232 RX Data	
3. RS232 TX Data	
4. GPIO 1	Can be configured as Digital Input, Analog Input, or Digital Output
5. Ground	
6. GPIO 2	Can be configured as Digital Input, Analog Input, or Digital Output
7. Ground	
8. Relay 1 Normally Closed	Connected to R1 Common when Relay 1 value is "0"
9. Relay 1 Common	
10. Relay 1 Normally Open	Connected to R1 Common when Relay 1 value is "1"
11. Relay 2 Normally closed	Connected to R2 Common when Relay 2 value is "0"
12. Relay 2 Common	
13. Relay 2 Normally Open	Connected to R2 Common when Relay 2 value is "1"
14. + 12VDC	250 MA limit
15. IR Emitter Ports 1-4	Accepts standard 3.5 mm tip-positive IR emitters
16. IR Emitter 5 (Blaster) / IR Learner	Functions as IR Blaster, also as IR learner target.

## Installing the BCX-1 Expansion Module

The BC4 is meant to house a BCX-series Expansion Module from BitWise Controls. Before installing or removing a BCX module from the BC4 enclosure, make sure that all power, network, and device connections have been disconnected.

	<p>Module Installation is accomplished by simply sliding the BCX module into the open end of the BC4 enclosure.</p>
	<p>Keep pushing until the DB25 connectors on both circuit boards mate firmly together, and the screw holes in the bottom of the BC4 enclosure align with the stand-offs already screwed into to BCX module.</p>
	<p>Now slide the BCX faceplate into position. Make sure to install all necessary screws into the faceplate sides, as well as the bottom of the enclosure.</p>

When finished, you can reconnect Ethernet and power cables. The BC4 will automatically sense which BCX module was installed, and adapt itself accordingly. Please note that it is possible that a newly released BCX module may require a BC4 firmware update to operate properly.

### Configuration and Usage

The BCX-1 is a very flexible and configurable device. Each connection has its own set of commands used for configuration, control, and monitoring. For a complete listing of all available commands and settings, please refer to the Command Protocol document available at [www.bitwisecontrols.com](http://www.bitwisecontrols.com).

### Resources

There are many support resources available in our support section at [www.bitwisecontrols.com](http://www.bitwisecontrols.com). Be sure to check in there for product news, software downloads and updates, and much more.

### Contact Information

We want to hear any questions and comments you may have about our company and products.

Please feel free to contact us.

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