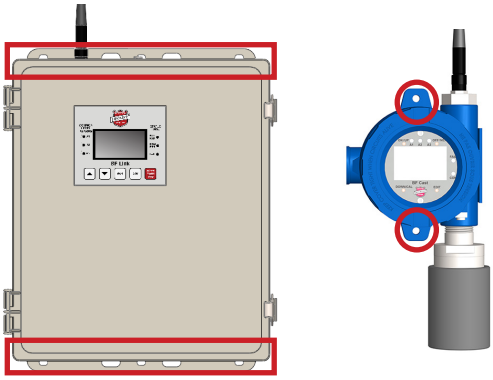
BDS-NET Wireless Monitoring System Quick-Start Guide

Network Configurations Using The BDS-LINK Controller & BF-CAST Sensor Assemblies

The BDS-NET Wireless Monitoring System consists of anywhere from 1 to 32 BF-CAST Sensor Assemblies sending data wirelessly to any number of BF-LINK Controllers and/or BFR Wireless Relayers. Dependable and simple to install and operate, a BDS-NET network can be setup and reconfigured primarily by physically relocating sensor assemblies.

Enclosure Mounting



BDS-LINK Mounting

Attach the controller to a wall by securing screws through the mounting holes on the top and bottom of the enclosure. Mounting magnets are also available for attaching BDS products to metal surfaces.

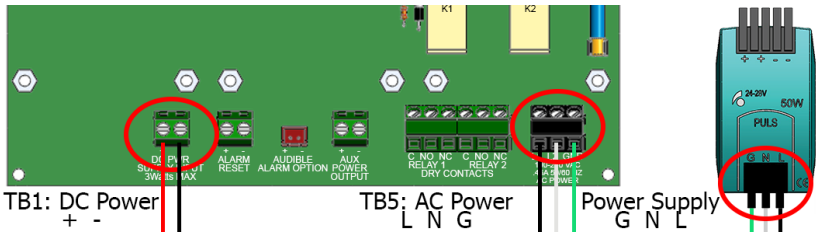
BF-CAST Mounting

Attach the sensor assembly to a wall by securing screws through the mounting holes on the top and bottom of the enclosure, or by using a wire/clamp to secure the enclosure to a pole. Mounting magnets are also available for attaching BDS products to metal surfaces.

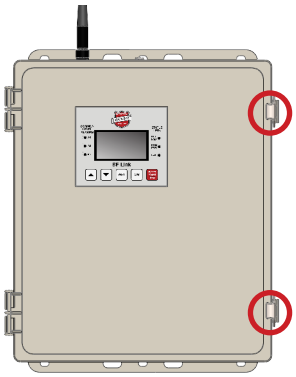
Initial Configuration

BDS-LINK Power Options

- 120 VAC terminations on TB5
- 120 VAC terminations on the optional power supply
- 10-30 VDC termination on TB1 when 120 VAC is not available

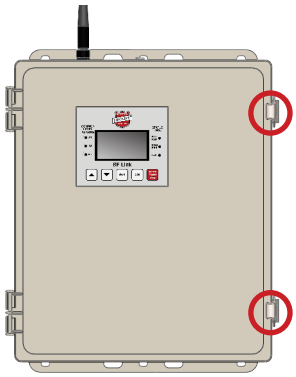


BDS-LINK Startup Sequence



Unclasp the enclosure latches and open the enclosure door.

Apply power to the BF-LINK and verify activity on the main LCD.



Close the enclosure door and clasp the enclosure latches.

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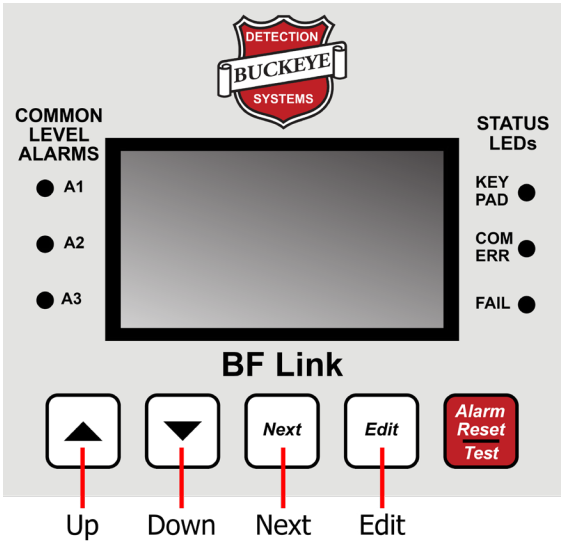
Initial Configuration



Configure the BDS-LINK as "Server"

1. From the main display, press Edit.
2. Press Up/Down to highlight Communications with arrow and Press Edit.
3. Press Up/Down to highlight WaveNet Radio with arrow and Press Edit.
4. Press Up/Down to highlight RF Mode with arrow and Press Edit.
5. Press Edit to toggle the RF Mode Server/Client option to Server.
6. Press Next to save changes.
7. Press Next two more times to return to the main display.

Configure the BDS-LINK / Wireless System Network Letter (A – Z)

1. From the main display, press Edit.
2. Press Up/Down to highlight Communications with arrow and press Edit.
3. Press Up/Down to highlight WaveNet Radio with arrow and press Edit.
4. Press Up/Down to highlight Network with arrow and press Edit.
5. With the Network Select Encrypted screen displayed, press Up/Down to select the Network letter.
6. Press Next to save changes.
7. Press Next two more times to return to the main display.

NOTE: Use network letter "A" when possible.
NOTE: Write in the BDS-LINK the Network Letter assigned.

Set the BDS-LINK Desired Transmission Power

1. From the main display, press Edit.
2. Press Up/Down to highlight Communications with arrow and press Edit.
3. Press Up/Down to highlight WaveNet Radio with arrow and press Edit.
4. Press Up/Down to highlight TX Power, by pressing Edit the TX Power amount will change.
5. Continue to press Edit until the desired mW is displayed.
6. Press Next to save changes.
7. Press Next two more times to return to the main display.

NOTE: 200mW is the recommended starting point.

Enable Number of BDS-LINK Channels to be Activated

NOTE: The BDS-LINK can monitor 32 channels. Only activate the number of channels desired for the system.

1. From the main display, press Edit.
2. Press Up/Down to highlight System Config with arrow and press Edit.
3. Press Up/Down to highlight Total Channels with arrow and press Edit (placing a cursor under the left digit). To toggle between the left and right digit press the Next key.
4. Once the cursor is under the desired digit, press the Up/Down key to scroll through the available ID numbers.
5. Press the Edit to accept.
6. To return to the main screen, press the Next key two times.

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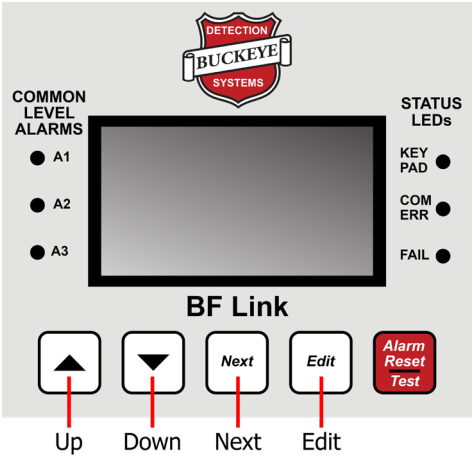
BDS-LINK Enable / Disable Channels

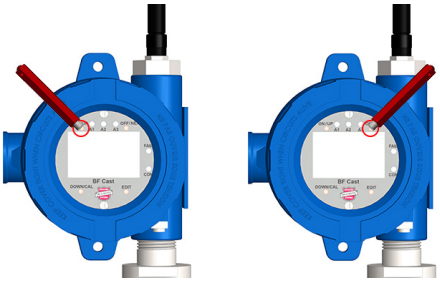
1. From the main display, press Edit.
2. Press Up/Down to highlight Channel Config with arrow and press Edit.
3. Press UP/Down to highlight Channel Active with arrow and press Edit to toggle between "Yes" and "No" for the channel to be active.
4. Press Next to accept changes or if additional channels are to be activated Press Up/Down to highlight Select Channel and press Edit to advance to the next channel and repeat process.
5. Press Next to escape.
6. Press Edit to re-enter menu to start back at channel 1.

NOTE: Dual transmitters take two channels.



BF-CAST Power ON/OFF

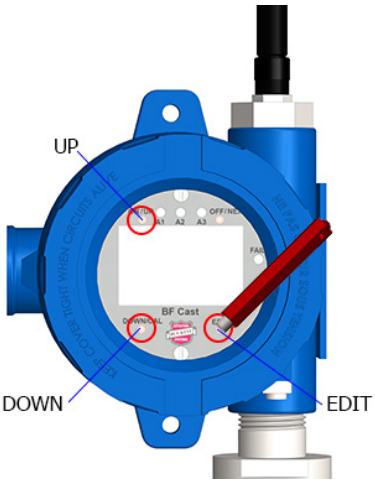
1. Hold the magnet on the ON/Up key for approx. 5 seconds (or until the display reads "Release Key") to Power On the device.
2. Hold the magnet on the OFF/NEXT key for approx. 5 seconds and then swipe magnet on the Edit key to accept (or the Next key to abort) to Power Off the device.



BF-CAST Network Letter Configuration

1. From the main display, swipe the magnet on the Edit key.
2. Swipe the Up/Down key to highlight the Device Setup with arrow and swipe the Edit key.
3. Swipe the Up/Down key to highlight the RF Link Setup with arrow and swipe the Edit key.
4. Swipe the Up/Down key to highlight the Network ID with arrow and swipe the Edit key.
5. With the Network ID highlighted with arrow next to it, swipe the Up/Down key to scroll through the available Network Letters.
6. When the desired Network Letter is displayed, swipe the Next key.
7. To return to the main screen, swipe the Next key three times.

NOTE: Write in the BF-CAST the Network Letter assigned.



Configure the BF-CAST Remote "ID" - One Channel Enabled

1. From the main display, swipe the magnet on the Edit key.
2. Swipe the Up/Down key to highlight the Device Setup with arrow and swipe the Edit key.
3. Swipe the Up/Down key to highlight the RF Link Setup with arrow and swipe the Edit key.
4. Swipe the Up/Down key to highlight the Remote ID with arrow and swipe the Edit key. This will place a cursor under the left digit. To place the cursor under the right digit, swipe the Next key; to toggle back and forth between left and right digit, swipe the Next key.
5. Once the cursor is under the desired digit, swipe the Up/Down key to scroll through the available ID numbers.
6. Once the desired ID number is displayed swipe the Edit key to accept.
7. To return to the main screen, swipe the Next key three times.

NOTE: Write in the BF-CAST the Remote ID number assigned.

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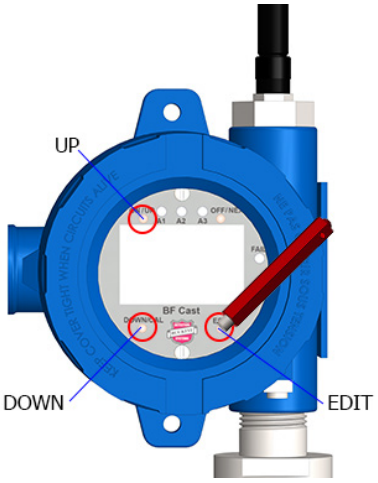
BDS-NET Wireless Monitoring System Quick-Start Guide

Configure the BF-CAST Remote "ID" - Two Channels Enabled

1. From the main display, Swipe the magnet on the Edit key.
2. Swipe the Up/Down key to highlight the Device Setup with arrow and swipe the Edit key.
3. Swipe the Up/Down key to highlight the RF Link Setup with arrow and swipe the Edit key.
4. Notice that both channel IDs are on the same line; only channel one's ID can be changed and channel two ID will automatically be the next sequential number.
5. Swipe the Up/Down key to highlight the Remote ID with arrow and swipe the Edit key. This will place a cursor under the left digit for channel one. To place the cursor under the right digit, swipe the Next key; to toggle back and forth between left and right digit, swipe the Next key.
6. Once the cursor is under the desired digit, swipe the Up/Down key to scroll through the available ID numbers. Once the desired ID number is displayed swipe the Edit key to accept. Notice that channel two populated the ID number with the next sequential number.
7. To return to the main screen, swipe the Next key three times.

NOTE: Write in the BF-CAST the Remote ID number assigned.



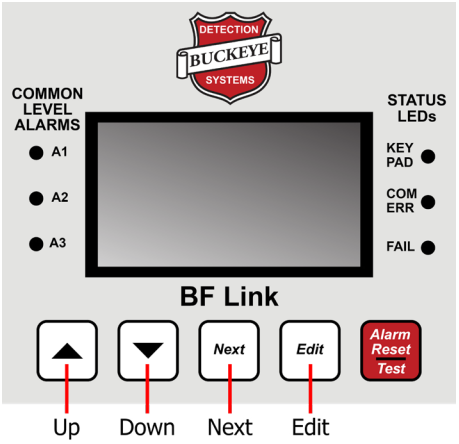
Set the BF-CAST Channel Name (Optional)

1. From the main display, swipe the magnet on the Edit key.
2. Swipe the Up/Down key to highlight the Channel number to modify and swipe the Edit key.
4. Swipe the Up/Down key to highlight the Configure Readout with arrow and swipe the Edit key.
5. Swipe the Up/Down key to highlight the Channel Name to modify with arrow and swipe the Edit key. This will place a cursor under a character position, swiping the Next key will scroll through the character positions.
6. Once the cursor is under the desired character position to change, swipe the Edit key.
7. Swipe the Up/Down key to scroll through the available characters.
8. Once the desired character is displayed swipe the Next key to advance to the next character position or swipe the Edit key to accept.
9. To return to the main screen, swipe the Next key three times.

NOTE: A default sensor gas name will upload from the sensor upon sensor install which will appear on the BDS-LINK channel name.

Configure the BDS-LINK Channel "ID" to Match the Transmitter "ID"

1. From the main display, press Edit.
2. Press Up/Down to highlight Channel Config with arrow and press Edit.
3. Press UP/Down to highlight Remote ID with arrow and press Edit.
4. Press the Next key to place the cursor under the desired number to change.
5. Press Up/Down to select the desired number and either press next to move the cursor to another digit to change or press Edit to accept.
6. Press Next twice to return to the main screen.



BF-CAST Force Transmission - Communication Confirmation

1. Hold the magnet on the ON/Up key until the display reads Release Key.

NOTE: After a forced transmission the BDS-LINK channel for that transmitter "ID" will show transmitter data.

******Repeat all steps for each BF-CAST transmitter and BDS-LINK channel******

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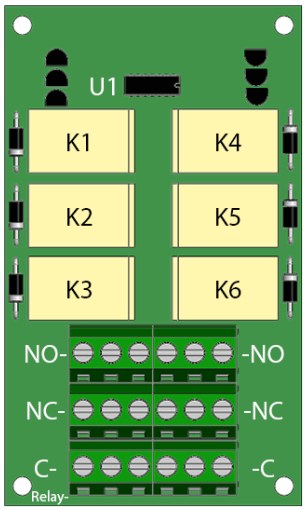
Relay Configuration

BDS-LINK Relays Overview

- The BDS-LINK comes standard with two relays.
- The BDS-LINK has an optional relay board with 6 additional relays.
- All relays can be configured to trip on several conditions reported by the BF-CAST, alarm 1, alarm 2, alarm 3, fault, low battery, comm error, remote edit, channel disabled, and none.
- Additional settings, latching, failsafe, delay etc. can be configured for each relay.
- All relays are pre-programmed for various default settings but can be changed.

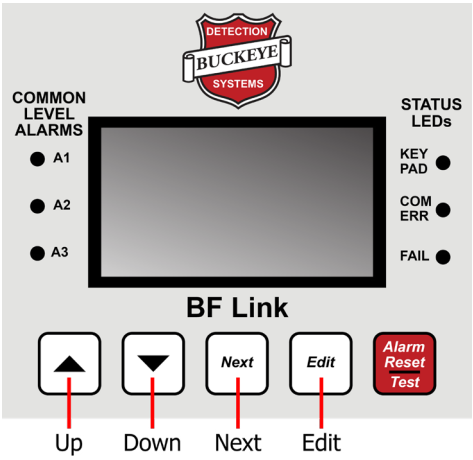


Optional Relay Board

BDS-LINK Relay Selection

NOTE: Configuration of relays must be completed for each channel and relay.

1. From the main display, press Edit.
2. Press Up/Down to highlight System Config with arrow and press Edit.
3. Press UP/Down to highlight Configure Relays with arrow and press Edit.



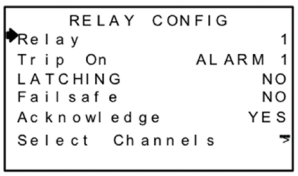
- **Trip On** controls what conditions will cause the relay to activate. These may be: A1, A2, A3, Fault, Low Battery (from a BF-CAST), Comm Error, Remote Edit (someone is modifying the BF-CAST's settings), Channel Disable (a controller channel has been disabled by an operator), None (this relay is not used and will never activate).

- **Latching** determines either manual or automatic alarm reset operation. YES, requires a manual Alarm Reset button press to unlatch the relay even though an alarm condition no longer exists. NO allows this relay to automatically reset after the alarm condition clears.

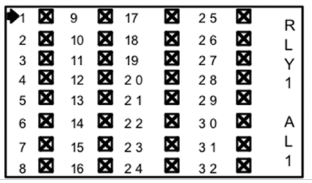
- **Failsafe** is an ON/OFF field where ON causes the relay to energize when the condition is not present. When the Trip On condition becomes true the relay de-energizes. Failsafe is often utilized when it is desirable for loss of power to indicate the alarm condition.

- **Acknowledge** is an ON/OFF field with ON typically used when the relay controls an audible device and it is desirable to silence the horn audible while troubleshooting the alarm. Applying an Alarm Reset causes the relay to return to its inactive state even though the alarm condition remains in effect. The Relay Refresh menu (see Section 4.6.5) may be used to re-activate acknowledged relays.

- **Select Channels** brings up a check box screen for assigning which of the Active Channels are assigned to this relay. This allows creating Zones among the active channels.



Relay Configuration Menu



Channel Selection Menu

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Recommendations & Troubleshooting

Signal Strength Recommendations

- The recommended RF power and signal strength for the BF-CAST is 200 mW (adjust as needed).

NOTE: The BF-CAST battery life decreases as the BF-CAST RF power is increased.

- The recommended RF power and signal strength for the BDS-LINK is 200 mW (adjust as needed).

Site Survey Tool Recommendations

- A Site Survey Tool is available to provide signal strength results between the BF-CAST location and the BDS-LINK.
- A Site Survey Tool should be used prior to installation and system design.
- Server in Range/Server Not Found - Perform an RF Link Status under the RF Link Setup menu to verify communications.

RF Power Transmissions - BF-CAST

- Increasing RF power will reduce battery life.
- To promote signal strength:
    - Remove the current antenna and install a remote antenna in a location that is free of obstructions and/or higher in the air
    - Use a larger antenna
    - Increase BDS-LINK RF power

NOTE: Antenna location or optional larger antenna is recommended prior to increasing BF-CAST RF power.

Alarms - BF-CAST

- The BF-CAST transmits alarm and fault status to the BDS-LINK.
- Sensors upload default alarm set-points to the transmitter but can be changed under the Alarm Settings.

Communications - BF-CAST

- Server not found - verify the BF-CAST and BDS-LINK have the same Network Letter assigned.
- Battery voltage - if the battery voltage is below 3.3 volts, the transmitter will operate but may have difficulty with successful communications with the BDS-LINK (change battery).
- Antenna - check antenna and connections (BF-CAST antenna should always point vertical).
- Perform RF Link Status test.
- Check RF Power mW setting and adjust.

Communications - BDS-LINK

- Ensure power is on and BDS-LINK display is operating.
- Verify the BF-CAST and BDS-LINK have the same Network Letter assigned.
- Check that the BDS-LINK channel is active and the remote “ID” matches the BF-CAST “ID”.
- Check antenna and connections.
- Check RF Power mW setting.

The operation manuals that accompany respective products in the BDS-NET system must be carefully read by all individuals who have or will have the responsibility of using, maintaining, or servicing these products. These products will perform as designed only if used, maintained, and serviced in accordance with the manufacturer’s instructions. The user should understand how to set the correct parameters and interpret the obtained results.

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