

BlueConnect

Wireless Serial Bridge

User Manual



powered by ForeSight Avionics & XCNav

Revision History

Rev.	Date	Author	Change
1.0	2026-04-06	Rudolph D.	Initial release

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1. About BlueConnect

BlueConnect is a compact wireless serial bridge that transmits serial data wirelessly to your navigation app. Connection is possible via Classic Bluetooth, BLE or WiFi – as NMEA or GDL90.

BlueConnect receives serial data via the RJ45 data connector and transmits it in real time to your tablet or smartphone – as an NMEA data stream (TCP) or as a GDL90 broadcast (UDP).

- ◆ Supported apps: XCSoar, LK8000, SeeYou Navigator, ForeFlight, SkyDemon, Air Navigation Pro, Garmin Pilot, WingX and all apps with NMEA or GDL90 support.
- ◆ Bluetooth range: approx. 10 m in the cockpit
- ◆ WiFi range: approx. 20–30 m

2. Package Contents & Technical Specifications

Package Contents

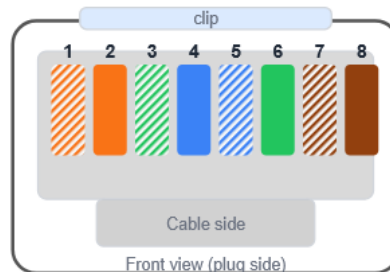
- 1x BlueConnect device
- 1x RJ45 cable (IGC standard)
- Quick start guide

Technical Specifications

Property	Value
Bluetooth	Classic BT + BLE 4.2
WiFi	802.11 b/g/n, 2.4 GHz
Power supply	12V via RJ45 (Pin 1+2)
Power consumption	< 500 mA
Operating temperature	-20 °C to +70 °C
Interface S1	RJ45, IGC standard
Interface S2	RJ45, IGC standard (output or 2nd input)
Baud rate	4800 / 9600 / 19200 / 38400 Bd (auto-detect)
TCP ports	S1: 4352 · S2: 4353
GDL 90	UDP broadcast port 4000

3. Connection – RJ45 (IGC Standard)

BlueConnect uses the IGC standard RJ45 connector, which is used by many avionics devices.



Pin	Color	Signal	Description	Function
1		12V	Power supply ⚡	Power in
2		12V	Power supply ⚡	Power in
3		NC	Not connected	—
4		NC	Not connected	—
5		RX	Data receive	→ RX
6		TX	Data transmit	← TX
7		GND	Ground	GND
8		GND	Ground	GND

Side Slide Switch – 12V Power to S2

BlueConnect features a side slide switch. When enabled, it connects the 12V supply voltage from S1 (Pin 1+2) to the S2 output, powering a device connected to S2.

💡 Switch ON: 12V from S1 is forwarded to S2 – the device connected to S2 is powered.

💡 Switch OFF: S2 provides no power – data communication via S2 only.

⚠️ Signal is inverted by default (IGC standard). For TTL devices this can be changed in the WebApp under Serial Interface → S1 Signal.

⚠️ Connect only to the serial data connector, not to the power connector.

4. Getting Started

Step by Step

- 4.1. Connect the RJ45 cable between BlueConnect and the serial data connector of your device.
- 4.2. Power on the device – BlueConnect starts automatically in the configured connection mode.
- 4.3. Open the app on your smartphone or tablet and establish a connection (see Chapter 5).

Change Settings – Access CFG WiFi

To change the connection mode, baud rate or other settings, the WebApp can be accessed via the CFG WiFi network.

- 4.1. Power off the device.
- 4.2. Hold the top button and power on simultaneously.
- 4.3. The WiFi network BC-XXXX-XXX_CFG ♦ appears in your device's WiFi menu.
- 4.4. Connect – Password: **myBlueConnect**
- 4.5. Open browser: **<http://192.168.4.1>** or **<http://blueconnect.local>**

5. Connection Modes

BlueConnect supports four connection modes. Only one mode can be active at a time. The mode is saved in the WebApp under Bluetooth & WiFi and activated automatically on the next startup.

5.1 Classic Bluetooth (XCSoar, LK8000)

Classic Bluetooth (SPP – Serial Port Profile) is the most established connection method and compatible with most navigation apps.

Setup

- 5.1.1.** In the BlueConnect WebApp: Bluetooth & WiFi → Classic BT → Save.
- 5.1.2.** On your smartphone/tablet: open Bluetooth settings and pair BlueConnect. No PIN required.
- 5.1.3.** In XCSoar: Config → Devices → New Device → Port: Bluetooth → Device: BlueConnect → Driver: according to connected data source (e.g. FLARM, NMEA).
- 5.1.4.** In LK8000: Settings → Devices → COM Port: Bluetooth → Device: BlueConnect.

✓ Compatible with: XCSoar, LK8000, Oudie, SeeYou (Classic) and all apps with Bluetooth SPP support.

5.2 BLE – Bluetooth Low Energy (SeeYou Navigator)

BLE is preferred by modern apps on iOS and Android and consumes less power. BlueConnect uses the Nordic UART Service (NUS).


Setup

- 5.2.1.** In the BlueConnect WebApp: Bluetooth & WiFi → BLE → Save.
- 5.2.2.** Open SeeYou Navigator.
- 5.2.3.** Settings → Devices → Add Device → Bluetooth LE → select BlueConnect.
- 5.2.4.** Protocol: NMEA, enable device.

✓ Compatible with: SeeYou Navigator (iOS & Android).

5.3 WiFi – NMEA TCP

In WiFi mode, BlueConnect opens its own WiFi network and provides NMEA data via TCP.

 While connected to the BlueConnect WiFi, no internet access is available.

Connection Parameters

Parameter	Value
SSID	BC-XXXX-XXX_NAV♦ (individual serial number)
Password	myBlueConnect
IP address	192.168.4.1 or blueconnect.local
Port S1	4352 (main input)
Port S2	4353 (output or 2nd input)
Protocol	TCP NMEA



Connect two devices simultaneously:

BlueConnect provides both serial interfaces in parallel via TCP:

- Device 1 (e.g. FLARM) on S1 → app connects to port 4352
- Device 2 (e.g. Vario) on S2 → app connects to port 4353

In XCSoar: create two devices – TCP Client, IP 192.168.4.1, port 4352 and 4353.

In LK8000: COM1 → TCP 4352, COM2 → TCP 4353.

Setup XCSoar

5.3.1. Connect to the BlueConnect WiFi network.

5.3.2. XCSoar: Config → Devices → Port: TCP Client → IP: 192.168.4.1 → Port: 4352 → Driver: according to connected data source.

Setup LK8000

5.3.1. Connect to the BlueConnect WiFi network.

5.3.2. LK8000: Settings → Devices → TCP Client → IP: 192.168.4.1 → Port: 4352.

5.4 WiFi – GDL 90 (ForeFlight, SkyDemon etc.)

GDL 90 is a UDP broadcast protocol used by many tablet apps. BlueConnect automatically sends received serial data as a GDL90 traffic broadcast.

Parameter	Value
SSID	BC-XXXX-XXX_NAV♦ (individual serial number)
Password	myBlueConnect
Protocol	GDL 90 / UDP Broadcast
Port	4000

Setup

- 5.4.1.** Connect to the BlueConnect WiFi network.
- 5.4.2.** ForeFlight: Traffic is detected automatically. Check More → Devices.
- 5.4.3.** SkyDemon: Go → Connect Device → GDL 90 Compatible Device.
- 5.4.4.** Air Navigation Pro: Settings → Traffic → GDL 90 → Enable.

✓ Compatible with: ForeFlight, SkyDemon, Air Navigation Pro, Garmin Pilot, WingX and more.

6. WebApp Settings

The BlueConnect WebApp enables full device configuration directly in the browser – no additional software required. It is accessible at <http://192.168.4.1> or <http://blueconnect.local> as soon as you are connected to the CFG WiFi network.

Section	Description
Start	Displays device status, serial number, firmware version and current connection information in real time.
Serial Interface	Configure baud rate, pin assignment and signal inversion for S1 and S2. The integrated NMEA monitor shows received data records live.
Bluetooth & WiFi	Select and configure the connection mode (Classic BT, BLE, WiFi NMEA or GDL90). Only one mode can be active at a time.
FLARM Config	Direct communication with the connected device: read and write configuration parameters, download flight log as IGC file.
Range Analysis	Visualization of reception range as a polar diagram – built up automatically during operation.
Firmware Update	Over-the-air update of firmware (.bin) and WebApp (.littlefs.bin) directly via the browser.



The WebApp works on any device with a browser – smartphone, tablet or laptop.



All settings are saved immediately on the device and applied automatically on the next startup.

7. Serial Interface & FLARM Config

Serial Interface

In the WebApp under Serial Interface, baud rate, pin assignment and signal inversion for S1 and S2 can be configured. The NMEA monitor shows the last received data records.

FLARM Config

BlueConnect can communicate directly with a connected device to read and write configuration parameters. During configuration mode, NMEA forwarding is paused.

Open Configuration

- 7.1. Open WebApp: <http://192.168.4.1> or <http://blueconnect.local>
- 7.2. FLARM Config → Activate.
- 7.3. Parameters are displayed. Click Read to load current values from the device.
- 7.4. Adjust values and save.
- 7.5. Deactivate – NMEA forwarding resumes.

Flight Log

On supported devices, saved flights can be downloaded as IGC files.

- 7.1. WebApp → FLARM Config → Activate.
- 7.2. List flights → download the desired flight.

8. Firmware Update

BlueConnect supports Over-the-Air (OTA) updates directly via the WebApp – no USB cable or special software required. Updates are provided by ForeSight Avionics or XCNav and may include new features, improvements and bug fixes.

There are two types of update files:

- Software update (.bin): Updates the firmware – includes improvements to core functions, new connection modes or bug fixes.
- WebApp update (.littlefs.bin): Updates the browser interface – new pages, improved design or new configuration options.



It is recommended to check for updates regularly to benefit from new features.



Firmware and WebApp can be updated independently of each other.

Performing an Update

- 8.1. Power off the device. Hold the top button and power on simultaneously.
- 8.2. Connect to WiFi **BC-XXXX-XXX_CFG** ♦ – Password: **myBlueConnect**
- 8.2. Open WebApp: <http://192.168.4.1> or <http://blueconnect.local>
- 8.3. Firmware Update → select update file.
- 8.4. Upload – BlueConnect restarts automatically after the update.



Only use official update files from ForeSight Avionics or XCNav.



Do not disconnect or power off the device during the update.

9. Troubleshooting

Problem	Solution
No WiFi visible	Hold the top button while powering on until the CFG WiFi appears.
WebApp won't load	Make sure you are connected to the CFG WiFi. Enter http://192.168.4.1 or http://blueconnect.local manually.
No NMEA data	Check baud rate (auto-detect in WebApp). Check RJ45 cable and pin assignment. Test signal inversion.
Bluetooth pairing failed	Restart BlueConnect. Remove device from Bluetooth list and pair again.
App receives no data	Check connection mode in WebApp. Set correct protocol in app (NMEA or GDL90).
GDL90 not detected	Enable GDL90 mode in WebApp. Restart app. Check UDP port 4000.

10. Safety Notes

- ⚠ BlueConnect is an accessory device and not a certified avionics system.
- ⚠ Always test all settings and connections on the ground before flight.
- ⚠ BlueConnect does not replace any mandatory safety equipment.
- ⚠ Ensure proper cable routing in the cockpit – no loose cables.
- ⚠ Use only IGC-compatible RJ45 cables.
- ⚠ Do not open or modify the device.
- ⚠ In case of malfunction, disconnect the device and contact the manufacturer.