CZONE®

# Connect 1

## Installation manual

English




WWW.CZONE.NET

## Copyright

©2025 Navico Group. All Rights Reserved. Navico Group is a division of Brunswick Corporation.

## Trademarks

®Reg. U.S. Pat. & Tm. Off, and ™ common law marks. Visit www.navico.com/intellectual-property to review the global trademark rights and accreditations for Navico Group and other entities.

- Navico® is a trademark of Navico Group.
- CZone® is a trademark of Navico Group.
- SmartCraft® is a trademark of Brunswick Corporation.
- LTE™ is a trademark of European Telecommunications Standards Institute.
- NMEA® and NMEA 2000® are trademarks of the National Marine Electronics Association.
- SD® and microSD® are trademarks of SD-3C, LLC.
- Wi-Fi® is a trademark of Wi-Fi Alliance.

## Warranty

This product's warranty is supplied as a separate document.

## Safety, disclaimer and compliance

This product's safety, disclaimer and compliance statements are supplied as a separate document.

## Internet usage

Some features in this product use an internet connection to perform data downloads and uploads. Internet usage via a connected mobile/cell phone internet connection or a pay-per-MB type internet connection may require large data usage. Your service provider may charge you based on the amount of data you transfer. If you are unsure, contact your service provider to confirm rates and restrictions. Contact your service provider for information about charges and data download restrictions.

## More information

Document version: 004

For the latest version of this document, and other related documentation, log in to the CZone portal (**https://downloads.czone.net/login**) and go to **https://downloads.czone.net/manuals**.

## Contact us

For product support and service information, visit **www.czone.net/en/contact**.

# CONTENTS


**4 Safety guidelines**

**5 Overview**
5 In the box
6 Hardware label
6 LED indicators
8 MicroSD® and SIM cards
9 Sample example

**10 Mounting**
10 Things you need
10 Mounting guidelines
10 Choose mounting location
11 Mount device
11 Connect antenna

**13 Wiring**
13 Things you need
13 Connector pinout
14 Battery monitoring/shunt input
15 High-side output channels
16 Signal input channels
17 External backup battery
18 Attach connector
18 Remove connector
19 Power up device

**20 Technical specifications**

**22 Dimensions**

**23 Parts & accessories**

# SAFETY GUIDELINES

This document is a guide for the safe and effective installation of CZone Connect 1.

It is essential that anyone who works on or with Connect 1 is completely familiar with the contents of this manual, and they carefully follow the instructions it contains.

Installation of Connect 1 must only be carried out by qualified, authorized, and trained personnel, consistent with the locally applicable standards, and take into consideration the safety guidelines in this document.

⚠ Connection and protection must be done in accordance with local standards.

⚠ Do not work on the Connect 1 or system if it is still connected to a power source.

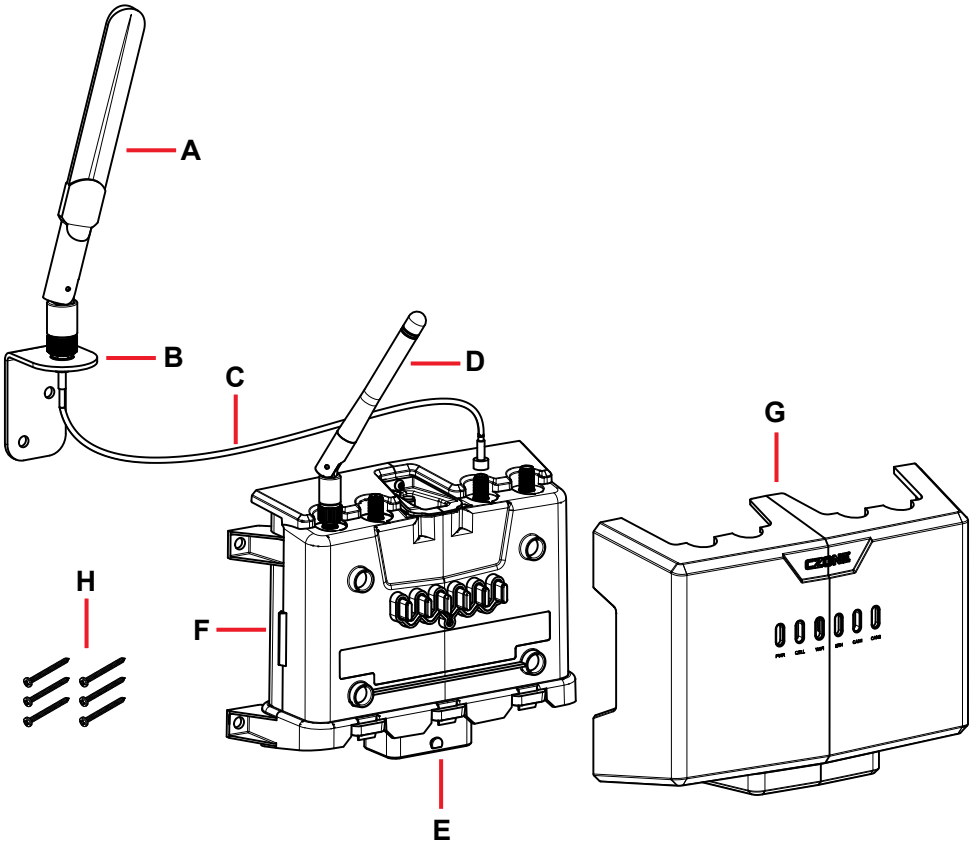
⚠ Only allow changes in your electrical system to be carried out by qualified electricians.

⚠ Check the wiring at least once a year. Defects such as loose connections and burned cables must be corrected immediately.

⚠ WARNING: Use of the Connect 1 other than mentioned above is not considered to be consistent with the intended purpose. Navico Group is not liable for any damage resulting from installations that do not adhere to the safety guidelines.

# OVERVIEW

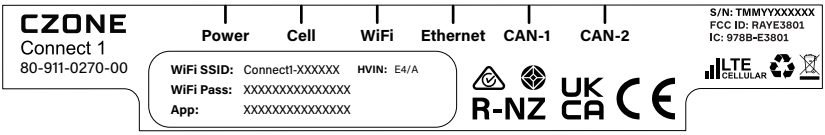
## In the box



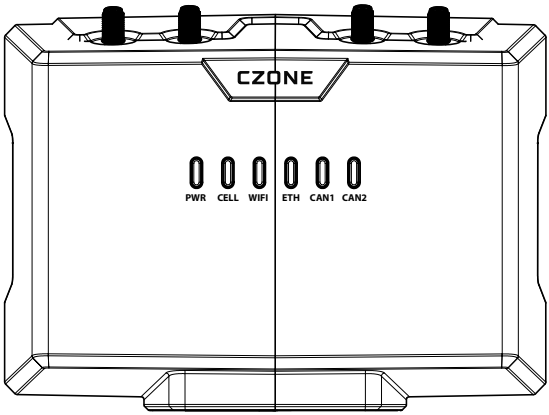

A 4G LTE™ cellular antenna (4G)
B Cellular antenna mounting base
C Cellular antenna extension cable
D Wi-Fi® antenna
E Connector receptacle
F Connect 1 device
G Device cover
H 8G x 1″ (4.2 mm) pan head, self-tapping screw x 6

# Hardware label

Important information for device set up and service is on the hardware label, including product part number, Wi-Fi® access point SSID and password, application password, serial number, and compliance identification numbers.




# LED indicators




### Power (PWR)

| Color | Description |
|---|---|
| Off | No power |
| Solid green | Power available, GPS fixed |
| Green flash slow | Power available, no GPS fixed |
| Solid red | Low voltage: <12 V for 12 V nominal voltage / <20 V for 24 V nominal voltage |
| 1 red flash | Device not configured |
| 2 red flashes | Configuration conflict |
| 3 red flashes | DIP switch conflict |
| 5 red flashes | No devices detected |
| 7 red flashes | Over current on any configured output channel |
| 9 red flashes | Missing commander on any configured output channel |

### Cellular (CELL)

| Color | Description |
|---|---|
| Off | Not connected to cellular network / disabled |
| Solid green | Connected to cellular network |
| Green flash fast | Connected to cellular network and transmitting data |

### Wi-Fi® (client)

| Color | Description |
|---|---|
| Off | Not connected to Wi-Fi® network / disabled |
| Solid green | Connected to Wi-Fi® network |
| Green flash fast | Connected to Wi-Fi® network and transmitting data |

### Ethernet (ETH)

| Color | Description |
|---|---|
| Off | Not connected to Ethernet network |
| Solid green | Connected to Ethernet network |
| Green flash fast | Connected to Ethernet network and transmitting data |

### CAN1 (NMEA 2000®)

| Color | Description |
|---|---|
| Off | No network power (no traffic received in last 10 seconds) |
| Solid green | Network power connected |
| Red flash | Network traffic |

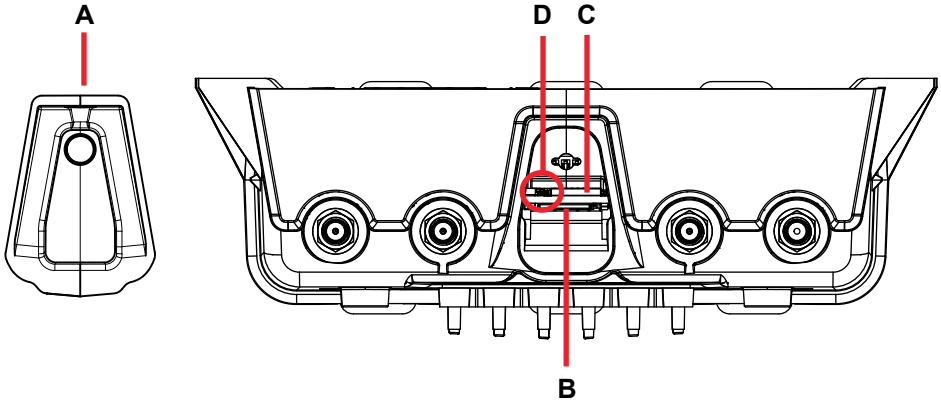
### CAN2 (SmartCraft)

| Color | Description |
|---|---|
| Off | No network power |
| Solid green | Network power connected |
| Red flash | Network traffic |

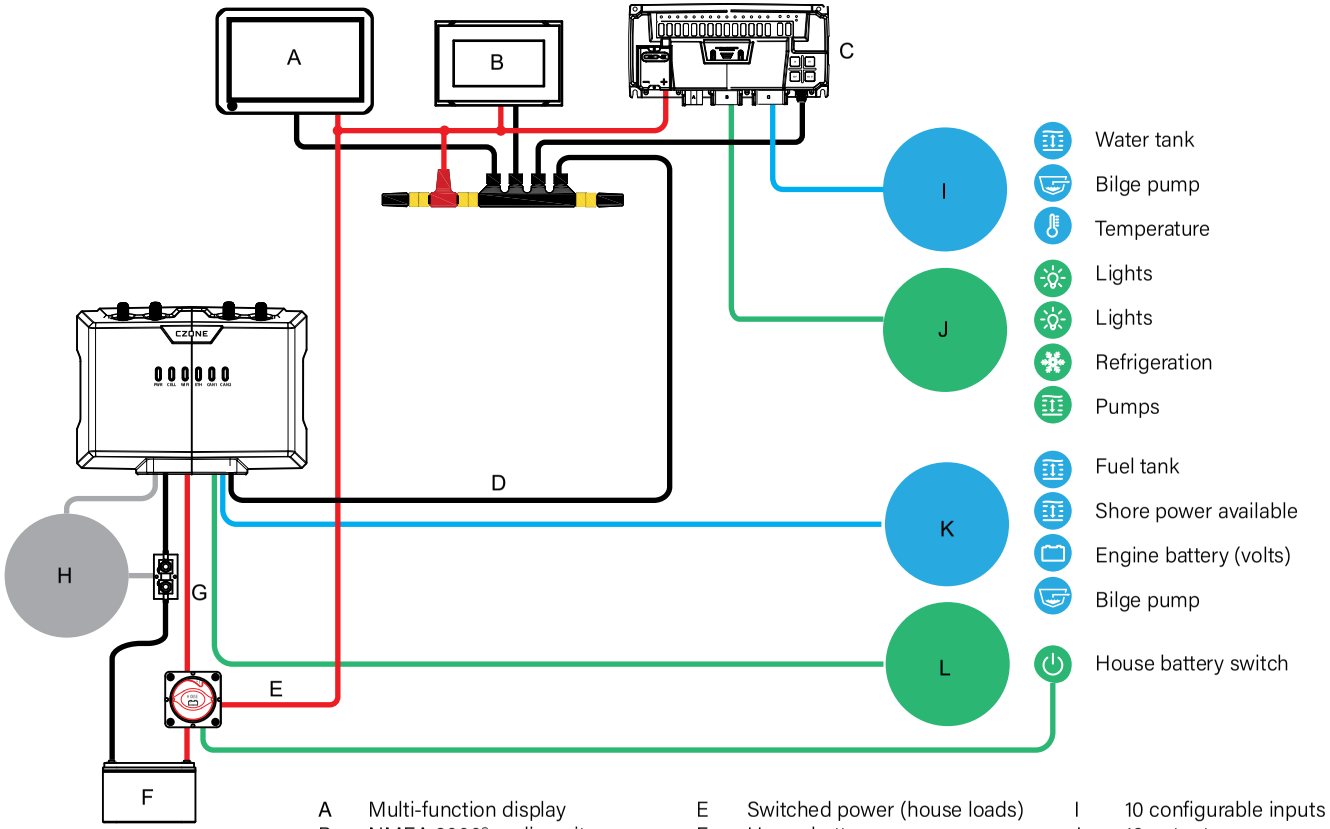
# MicroSD® and SIM cards

To access the microSD® and SIM card slots and software reset button, remove the cover from your Connect 1 and then use a small Phillips screwdriver to remove the cover (**A**) to the compartment between the antenna connectors.

There is currently no application for the SIM card slot (**B**) because Connect 1 uses an eSIM for cellular connectivity. There is also currently no application for the microSD® card slot (**C**). The reset button (**D**) is located to the left of the microSD® card slot. It allows you to reset the Connect 1 app and Wi-Fi® access point logins (press for 5 seconds) or reset all settings to their factory default (press for 20 seconds).



# Sample example




| | | | | | |
|---|---|---|---|---|---|
| A | Multi-function display | E | Switched power (house loads) | I | 10 configurable inputs |
| B | NMEA 2000® audio unit | F | House battery | J | 16 outputs |
| C | CZone Control X Plus | G | 24 hour power | K | 4 signal inputs |
| D | NMEA 2000® | H | Battery state of charge | L | 4 high-side outputs |

# MOUNTING

⚠ WARNING: Improper product or antenna fitting, product or antenna lack of maintenance or damage can result in loss or unstable access of cellular or Wi-Fi® signal, affecting remote capability, monitoring and operation of the connected features.

BRUNSWICK CORPORATION AND ITS SUBSIDIARIES, BRANCHES AND AFFILIATES (INCLUDING NAVICO GROUP) DISCLAIM ALL LIABILITY FOR ANY DAMAGE, INJURY OR DEATH ARISING FROM OR IN ANY WAY CONNECTED WITH IMPROPER FITTING, INSTALLATION OR MAINTENANCE OF THE PRODUCT AND ANTENNA.

## Things you need

- 3.5 mm drill bit
- #2 Phillips screwdriver
- External GPS antenna such as the Navico GPS-500 (sold separately).

## Mounting guidelines

*Do not:*

- Mount any part where it can be used as a hand hold.
- Mount any part where it might be submerged or exposed to moisture.
- Mount in a way so that moisture or condensation can pool or follow the cables into the device.
- Mount in a location that may expose the device to dust and extreme temperatures. For the device's optimal temperature range, refer to **Technical specifications** on page 20.

*Do:*

- Consider the overall width and height requirements.
- Leave sufficient clearance to connect all relevant cables and antennas.
- Check that it is possible to route cables to the intended mounting location.
- Read and adhere to the mounting location and orientation instructions outlined below.

## Choose mounting location

When selecting a mounting location, the following must be considered:

- To ensure optimal performance of your Connect 1, the device must be located where it can clearly receive and transmit wireless signals. Best locations are high in the vessel, above the waterline with no physical obstacles (e.g., metal, carbon fiber) nearby. We recommend the wireless performance is tested before finalizing the mounting location.
- Mount your Connect 1 (taking into account the position and height of the antenna) at least 100 mm (3.93") from high current carrying conductors such as anchor winches, bow thruster cables, speakers, transformers, and other high-inductive loads.
- Mount your external GPS antenna on the hardtop with a clear view of the sky.

# Mount device

Once you've found a suitable location to install your Connect 1:

1 Check the depth of the material the Connect 1 device is being mounted to.

→ ***Note:*** *Connect 1 comes with 8G x 1" pan head, self-tapping screws. The depth of your mounting surface may mean you'll need to supply your own alternative mounting hardware.*

2 Remove the cover from your Connect 1 device.

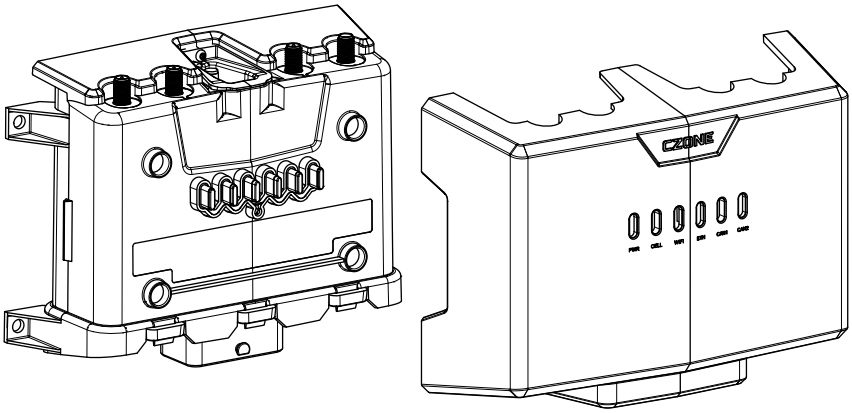
3 Place the device on a solid flat surface, and mark the screw locations.

4 Remove the device and pre-drill the mounting holes using a 3.5 mm drill bit.

5 Mount the device using 4 of the supplied 8G x 1" (4.2 mm) self-tapping screws.

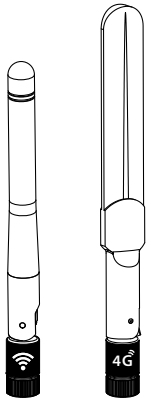
6 Tighten the screws to a maximum of 6 N.m (4.42 lb-ft).

7 Place the cover over the device and click back into place.

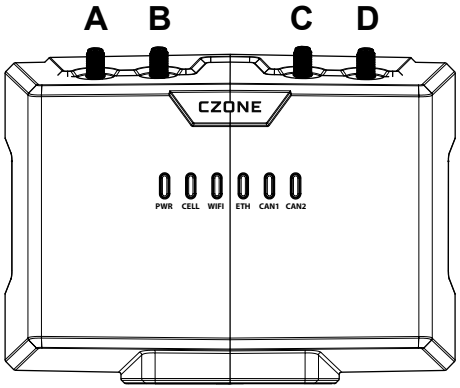



# Connect antenna

Connect 1 comes with a Wi-Fi® antenna for wireless communications as well as a LTE™ cellular antenna (4G) for cellular communications. These antennas cannot be interchanged.



There are dedicated connectors on the Connect 1 for the Wi-Fi®, cellular and GPS antennas.




A Wi-Fi® antenna connector

B SRD antenna connector (Not used. Reserved for future use.)

C 4G LTE™ cellular antenna connector

D GNSS (GPS) antenna connector

## Wi-Fi® antenna

Connect the Wi-Fi® antenna to the dedicated connector (**A**) and tighten to 5 N.m (3.68 lb-ft).

## 4G LTE™ cellular antenna

1 Choose a location away from the Connect 1 to help with cellular reception. Choose a location that ensures the cellular antenna will be away from physical obstacles that could block wireless signals (e.g., metal, carbon fiber).

2 Position the remote antenna mounting base so the antenna can be oriented vertically.

3 Secure the mounting base using 2 of the supplied 8G x 1" (4.2 mm) pan head, self-tapping screws.

4 Attach the cellular antenna to the mounting base.

5 Used the supplied cellular antenna extension cable to connect the cellular antenna to the dedicated connector (**C**).

6 Tighten to 5 N.m (3.68 lb-ft).

## GNSS (GPS) antenna

Mount your external GPS antenna on the hardtop with a clear view of the sky, following the instructions that came with the product.

Connect the GPS antenna to the dedicated connector (**D**) and tighten to 5 N.m (3.68 lb-ft).

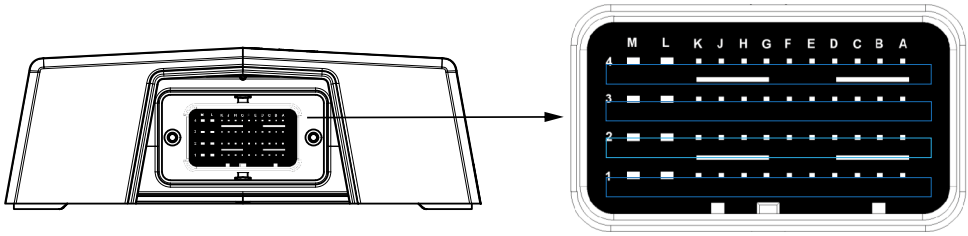
⚠ WARNING: Do not tighten Connect 1 antenna connections beyond 5 N.m (3.68 lb-ft). Overtightening could cause significant damage to the antenna connectors resulting in a loss of performance or complete failure.

# WIRING

## Things you need

- Connect 1 connector. Sold separately as a pre-made unit (already wired and ready for use) or as individual parts for own wiring. For part numbers and wiring instructions (see **Parts & accessories** on page 23).

## Connector pinout



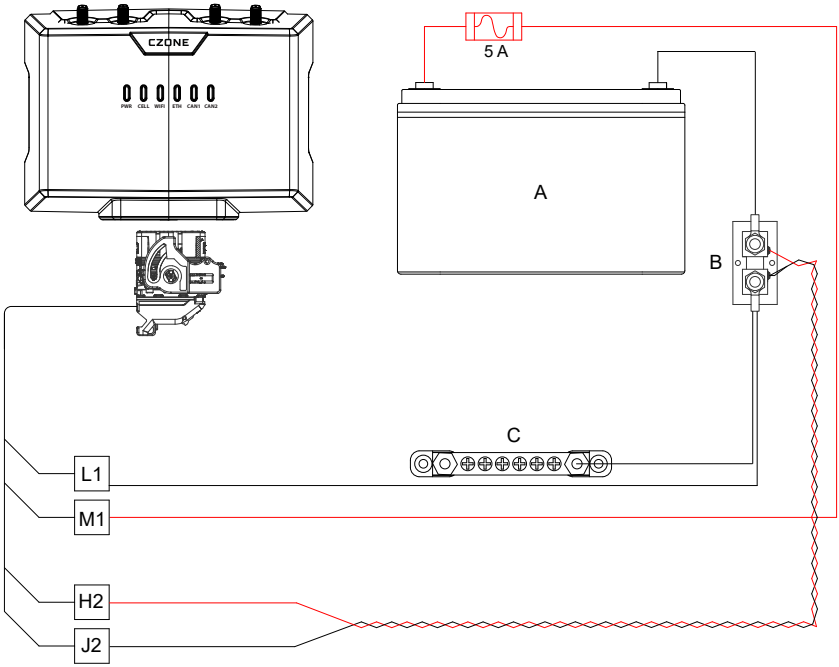

| Pin | Function | Pin | Function | Pin | Function | Pin | Function |
|---|---|---|---|---|---|---|---|
| A1 | Signal input 1 | A2 | SmartCraft -ve | A3 | SmartCraft Prime H | A4 | SmartCraft buzzer |
| B1 | Signal input 2 | B2 | SmartCraft +ve | B3 | SmartCraft Prime L | B4 | SmartCraft signals -ve |
| C1 | Signal input 3 | C2 | SmartCraft CAN P-H | C3 | SmartCraft CAN H-L | C4 | SmartCraft ESTOP |
| D1 | Signal input 4 | D2 | SmartCraft CAN P-L | D3 | SmartCraft CAN H-H | D4 | SmartCraft signals +ve |
| E1 | High-side output 1 | E2 | No connection | E3 | No connection | E4 | SmartCraft crank |
| F1 | High-side output 2 | F2 | No connection | F3 | No connection | F4 | No connection |
| G1 | High-side output 3 | G2 | LIN | G3 | RS232_RTS | G4 | Ethernet transmit +ve |
| H1 | High-side output 4 | H2 | Shunt +ve | H3 | RS232_CTS | H4 | Ethernet transmit -ve |
| J1 | Backup battery +ve | J2 | Shunt -ve | J3 | RS232_RX | J4 | Ethernet receive +ve |
| K1 | Backup battery -ve | K2 | Common negative (optional connection) | K3 | RS232_TX | K4 | Ethernet receive -ve |
| L1 | Main power -ve | L2 | NMEA 2000® CAN - L | L3 | NMEA 2000® CAN - H | L4 | No connection |
| M1 | Main power +ve | M2 | NMEA 2000® power -ve | M3 | NMEA 2000® power +ve | M4 | Ethernet ground (optional connection) |

# Battery monitoring/shunt input

Battery monitoring input: voltage, current, SOC (state of charge)

Connect 1 features battery monitoring capabilities that require the remote mounting of an external shunt (not included). You must connect the shunt to the same battery as the Connect 1's main power supply and incorporate it on the negative side of the battery system.

Configuration of battery monitoring/shunt input is done via the **Meters** tab in the CZone Configuration Tool. For full instructions, refer to the **CZone Configuration Tool instruction manual**.

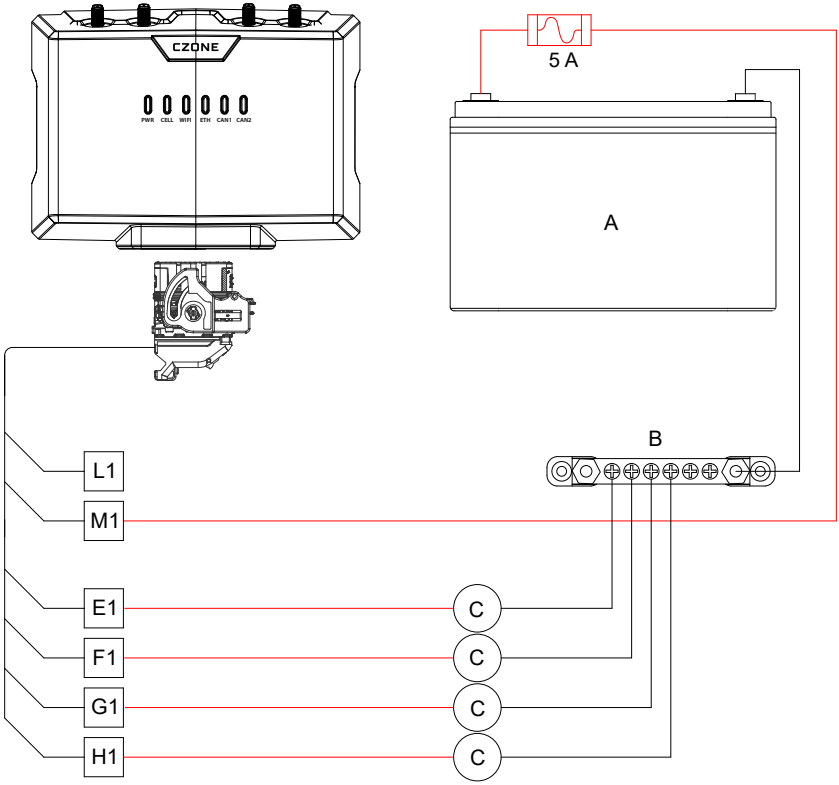



A 12 V / 24 V house battery
B Shunt
C Vessel loads -ve
L1 Main power -ve
M1 Main power +ve
H2 Shunt +ve
J2 Shunt -ve

# High-side output channels

4x CZone configurable outputs: 1 A software fused (not configurable), dimmable, current sensing.

Configuration of high-side outputs is done via the **Loads** tab in the CZone Configuration Tool. For full instructions, refer to the **CZone Configuration Tool instruction manual**.

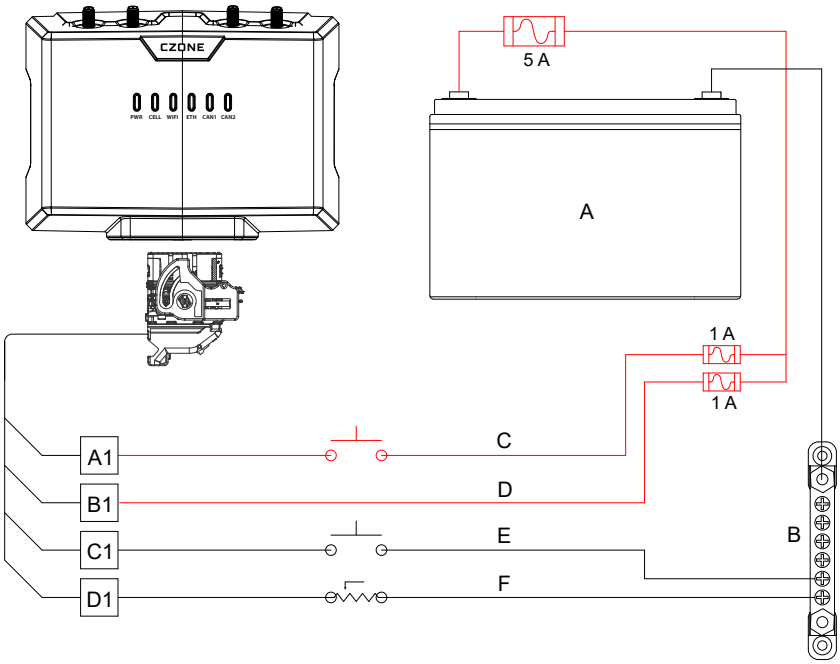



A 12 V / 24 V house battery
B Vessel loads -ve
C Load
L1 Main power -ve
M1 Main power +ve
E1 High-side output 1
F1 High-side output 2
G1 High-side output 3
H1 High-side output 4

# Signal input channels

4x CZone signal inputs: 0-32 V, 0-1000 Ω, switch to positive, switch to negative.

Configuration of signat inputs is done via the **Inputs** tab in the CZone Configuration Tool. For full instructions, refer to the **CZone Configuration Tool instruction manual**.




A 12 V / 24 V house battery
B Vessel loads -ve
C Switch to positive
D 0-32 V voltage monitor or sender
E Switch to negative
F 0-1000 Ω sender
A1 Signal input 1
B1 Signal input 2
C1 Signal input 3
D1 Signal input 4

# External backup battery

Connect 1 allows for the connection of a backup battery, which enables the device to communicate after the main supply battery has been exhausted. The device will keep the backup battery charged in the event it is ever required with its inbuilt 60 mA charge output, using the same two backup battery input wires.

The backup battery is required to be 12 V, even if the main battery banks nominal voltage is 24 V.

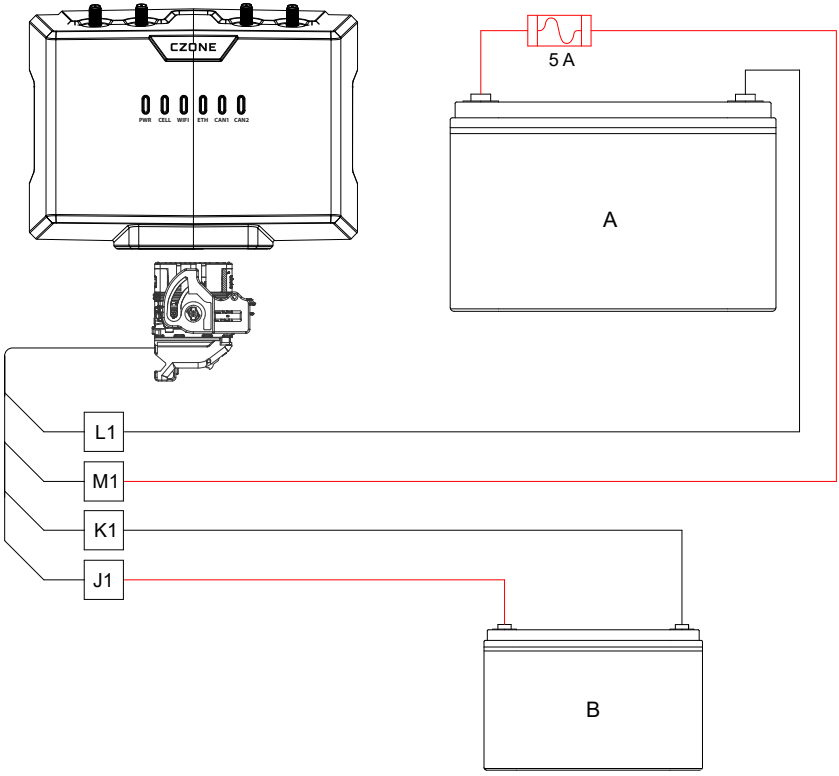
In the event the house battery is depleted, the loads connected to the Connect 1 will not be able to be operated from the backup battery. Only monitoring will be available.

Charging will only take place when the main supply source is being charged. The charge engage/ disengage voltages are:

- Engage – 13.4 V (26.8 V)
- Disengage – 12.2 V (24.4 V)

External backup battery requirements:

- Sealed lead acid
- Lithium battery
- 12 V
- 2-7 Ah recommended capacity

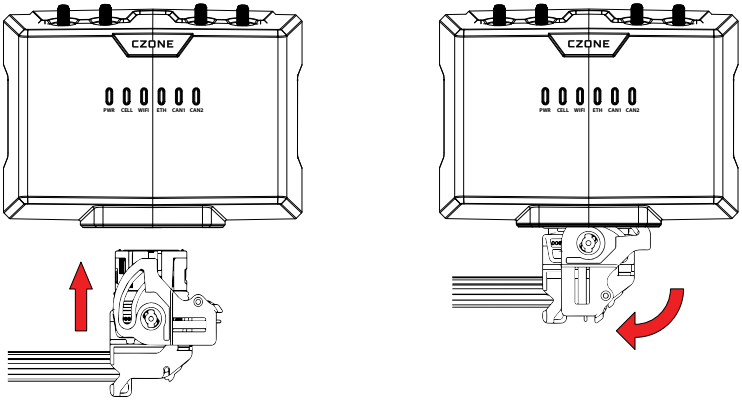



| | | | |
|---|---|---|---|
| A | 12 V / 24 V house battery | M1 | Main power +ve |
| B | 12 V backup battery | K1 | Backup battery -ve |
| L1 | Main power -ve | J1 | Backup battery +ve |

# Attach connector

1 Line up your connector with the receptacle on the Connect 1, ensuring the locator marking on the connector and receptacle line up.

2 As the connector is inserted, rotate the locking lever until it stops and clicks into place on the retaining cap.

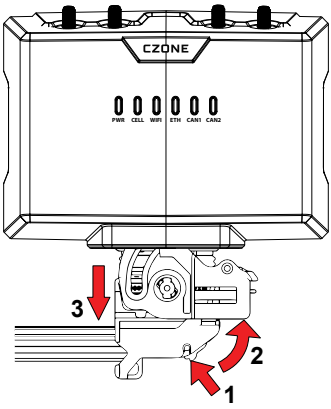



# Remove connector

1 Push the release tab on the retaining cap.

2 Rotate the locking lever as the connector is removed until the lever is all the way open.

3 Remove the connector.



# Power up device

Once your Connect 1 is connected to the powered NMEA 2000® network:

1 Check the connector is securely attached and the connector lock is clicked into place.

2 Turn on the circuit breaker that supplies power to the Connect 1.

3 Wait for the Connect 1 to complete its boot up sequence.

➔ ***Note:*** *For detailed instructions on how to set up and configure your Connect 1, refer to the Connect 1 user manual.*

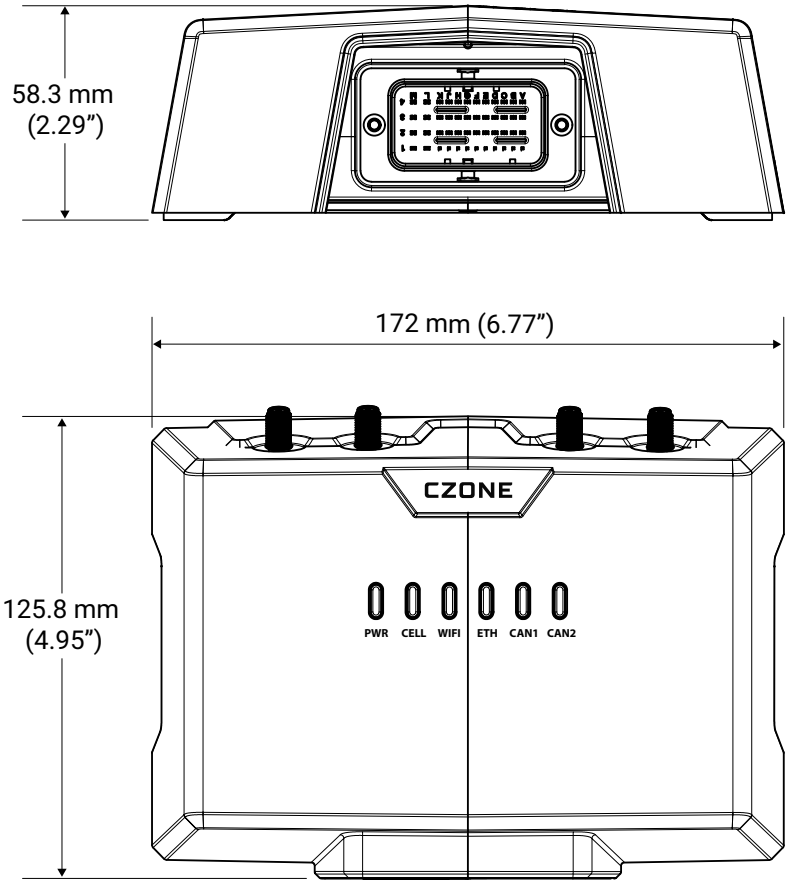
# TECHNICAL SPECIFICATIONS

| Specifications | Description |
|---|---|
| Main supply voltage | 9-32 V |
| Backup battery | 12 V SLA battery connection (up to 20 days additional up time)<br>Lithium battery<br>2-7 Ah battery capacity<br>60 mA charging capacity |
| Main connector | Molex CMC |
| Current draw - host running and transmitting (vessel attended) | <400 mA (depending on configuration)<br>13.8 V DC supply |
| Current draw - sleep/standby (vessel unattended) | <=69 mW (5 mA at 13.8 V) |
| CAN channels | 4 x, NMEA 2000®, SmartCraft, other applications as required |
| Ethernet | 1 x, 10/100 Mbps |
| Outputs | 4 x 1 A internally fused high-side outputs (CZone configurable) |
| Inputs | 4 x CZone signal inputs (0-32 V, 0-1000 Ω, switch to positive, switch to negative)<br>1 x battery monitor (Volts, Amps, SOC)<br>Voltage monitored on main power<br>Amps/SOC requires external negative shunt (50 mV) |
| Logic blocks/virtual signals | 64 |
| Network supply voltage | 12 V |
| Circuit bypass | N/A |
| Ingress protection | IPX7 |
| Compliance | FCC, CE, IC, UKCA, RCM |
| Warranty period | 2 years |
| Operating temperature range | -10°C to 70°C (14°F to 158°F) |
| Storage temperature range | -40°C to 85°C (-40°F to 185°F) |
| Weight | 540 gms (1.2 lbs) |
| Frequency bands and frequency power limits | ▪ LTE™ Band B1 (2100 MHz, 1920-2170 MHz), B3 (1800 MHz, 1710-1880 MHz), B8 (900 MHz, 880-915 MHz/925-960 MHz), B20 (800 MHz, 832-862 MHz/791-821 MHz), and B28 (700 MHz, 703-748 MHz/758-803 MHz): < 22 dBm<br>▪ 2.4G & 5G Wi-Fi®: 2402MHz-2480MHz and 5170MHz-5815MHz: < 20 dBm<br>▪ BT/BLE: 2402MHz-2480MHz: < 13 dBm. |

## Transmitted NMEA 2000® PGNs

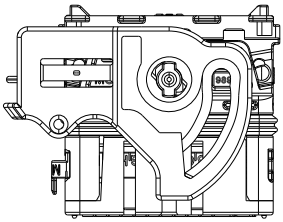
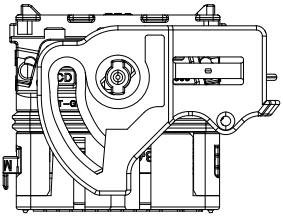
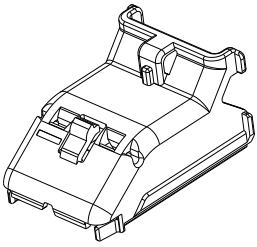
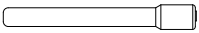
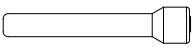
| PGN | Description | Fields |
|---|---|---|
| 127508 | Battery status | Battery voltage |
| 127506 | DC detailed status | State of charge, time remaining, DC type |
| 127505 | Fluid level | Fluid level |
| 130312 | Temperature | Actual temperature |
| 130314 | Pressure | Pressure |
| 130316 | Temperature, extended range | Actual temperature |

# DIMENSIONS


58.3 mm
(2.29”)
172 mm (6.77”)
125.8 mm
(4.95”)
CZONE
PWR
CELL
WIFI
ETH
CAN1
CAN2

# PARTS & ACCESSORIES

| Main SKU | Part number |
|---|---|
| Connect 1 | 80-911-0270-00 |

| Connector parts | | Molex part number |
|---|---|---|
| Connector housing (left wire output) |  | 642301311 |
| Connector housing (right wire output) |  | 643203311 |
| Connector retaining cap |  | 643201301 |
| Terminal cavity blank 0.6 mm |  | 643251010 |
| Terminal cavity blank 1.5 mm |  | 643251023 |

©2025 Navico Group. All Rights Reserved. Navico Group is a division of Brunswick Corporation.
®Reg. U.S. Pat. & Tm. Off, and ™ common law marks.
Visit www.navico.com/intellectual-property to review the global trademark rights and accreditations for Navico Group and other entities.

WWW.CZONE.NET