Waterproof Keypad

User & Installation Manual

V1.0

Copyright

Important

BEP strives to ensure all information is correct at the time of printing. However, the company reserves the right to change without notice any features and specifications of either its products or associated documentation.

Translations: In the event that there is a difference between a translation of this manual and the English version, the English version should be considered the official version.

It is the owner's sole responsibility to install and operate the device in a manner that will not cause accidents, personal injury or property damage.

Use of This Manual

TABLE OF CONTENTS

1 OVERVIEW

1.0 DESCRIPTION

The CZone Waterproof Keypad is an IPX7 submersible controller for CZone systems. Utilizing dimmable RGB LEDs for the circuit label backlights, you can achieve the perfect color and brightness combination for any light situation. The simple to install keypad can be used as a standalone plug and play system with a Contact 6 PLUS or can be added to any CZone system as an additional controller.

1.1 PARTS INCLUDED
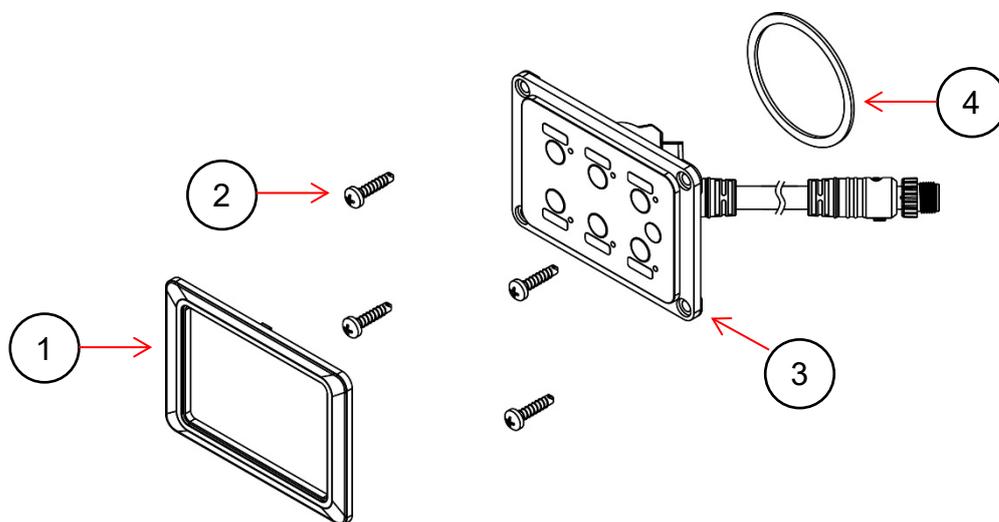
1. Bezel
2. Mounting screws
3. Waterproof Keypad
4. Dash gasket

1.2 FEATURES

- Waterproof Keypad for controlling CZone systems
- Plug and play out of the box functionality when combined with a Contact 6 PLUS
- Status LED's/fault codes for all channels
- IPx7 ingress protection
- NMEA2000 compliant
- Single hole saw installation
- RGB circuit back lighting with adjustable back light levels
- Front and rear mountable

1.3 HARDWARE OVERVIEW
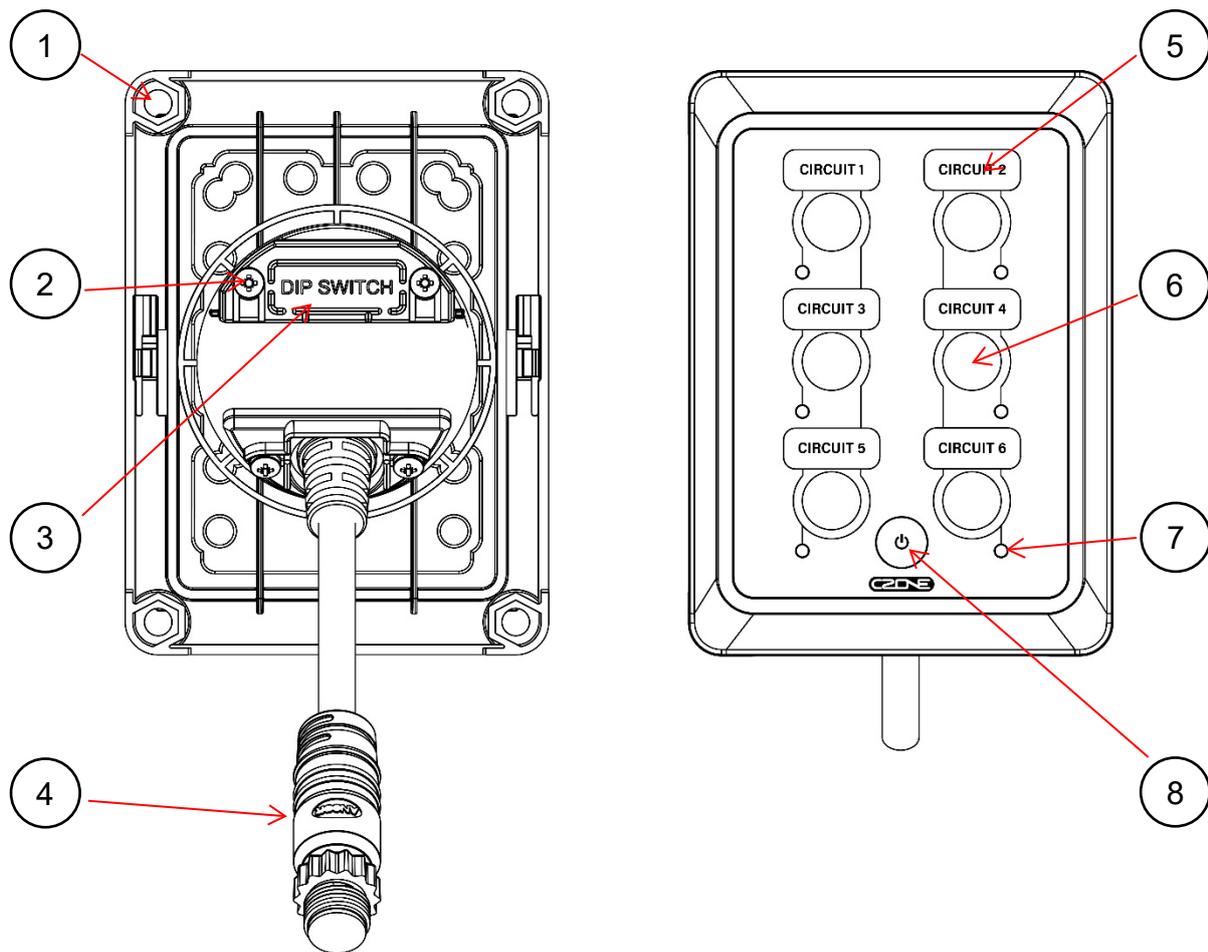
1. Mounting holes
2. Dipswitch cover retaining screw
3. Dipswitch cover
4. NMEA 2000 Micro C Connector
5. Backlit circuit labels
6. Push button switches
7. LED Indicators
8. Power button / backlight control

1. LED Indicators

Colour	Description
Extinguished	Channel Off
White Solid On	Channel On
1x White Flash	Module Not Configured
2x White Flash	Configuration Conflict
3x White Flash	DIP Switch Conflict
4x White Flash	Memory Failure
5x White Flash	No Modules Detected
6x White Flash	Fault on Output
7x White Flash	Output Not Detected

## 2   INSTALLATION

2.0   THINGS YOU NEED

- Electrical Tools
- 2 $^{1/16}$" (52mm) hole saw
- CZone Waterproof Keypad
- Contact 6 PLUS or other CZone DC switching module
- CZone Smart Harness or NMEA2000 network cables

2.1   MOUNTING

The CZone Waterproof keypad has been designed for the harsh marine environment, so they can be mounted to any flat surface. The Waterproof Keypad's are available in portrait and landscape orientation.
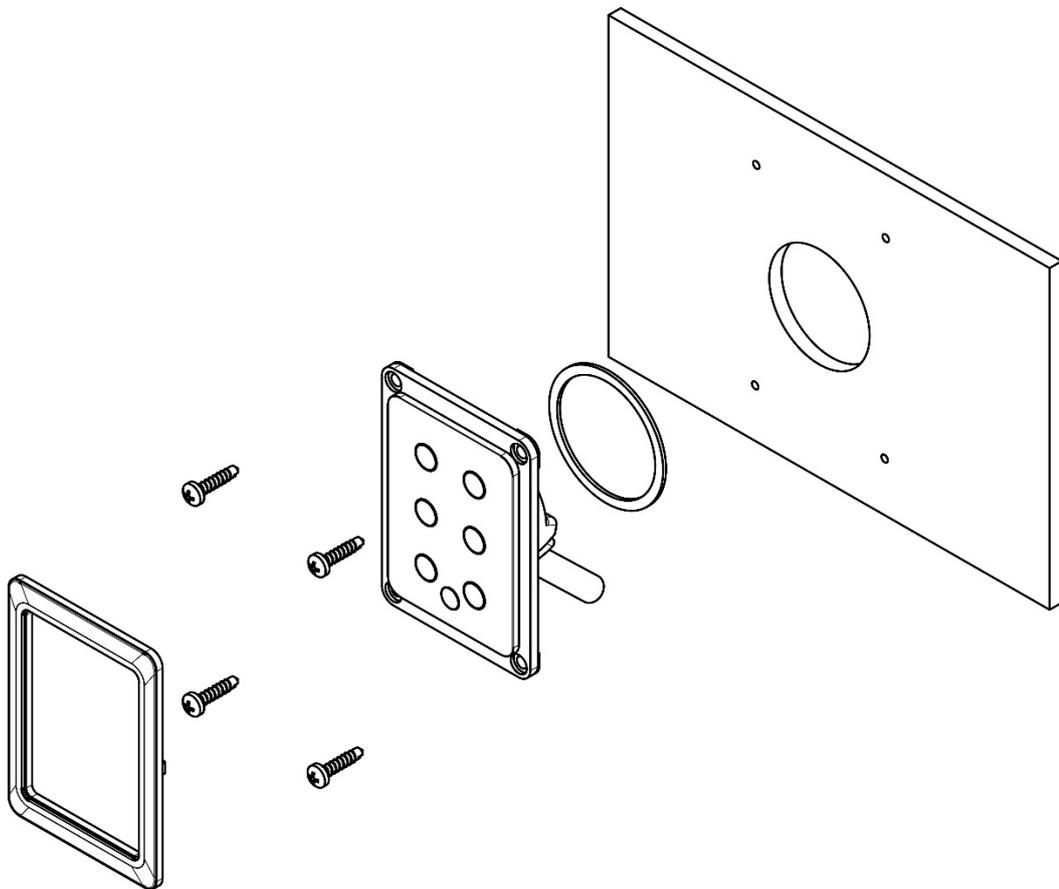
1. Drill the main hole with a 2 1/16" (52mm) hole saw
2. Drill the 4 corner screw holes
3. If using a custom configuration, loosen the dipswitch cover screws half a turn and slide dipswitch cover off and set the dipswitch, refit the cover and tighten the screws
4. Install the dash gasket onto the keypad
5. Guide the harness through the hole and install the 4 corner screws
6. Install the appropriate circuit labels if using the retail keypad version
7. Fasten the Contact 6 PLUS by using 4 x 8G or 10G (4mm or 5mm) self-tapping screws or bolts (not supplied).
8. Install the bezel
9. Connect the network cable

2.2 CONNECTIONS

The CZone Waterproof keypad has a single drop cable with a Micro-C NMEA2000 connector. When installing the Waterproof Keypad with a single output module like the Contact 6 PLUS, we recommend using the CZone Smart Harness. Alternatively, you can install the Waterproof Keypad with a standard NMEA2000 network/backbone.
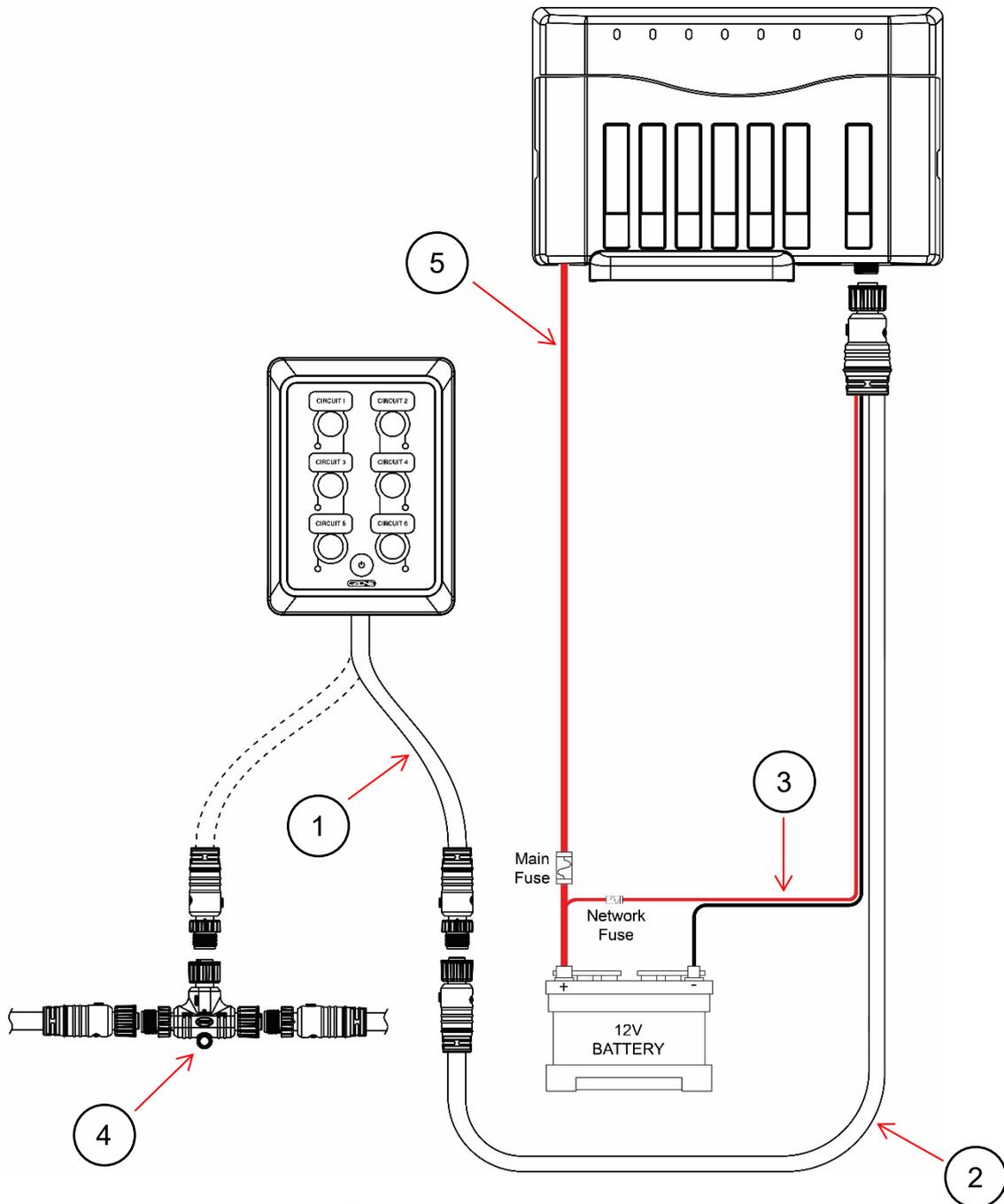
1. Waterproof Keypad drop cable
2. CZone Smart Harness* – P/N 80-911-0171-00
3. Network power supply cables built into Smart Harness
4. NMEA2000 Network *(optional instead of Smart Harness)*
5. Power supply to Contact 6 PLUS

IMPORTANT – The CZone Smart Harness should NOT be installed to a NMEA2000 network, it should ONLY be used on standalone installations.

2.3 NETWORK CONFIGURATION

CZone modules communicate with each other over a NMEA2000 CAN BUS network. Each module needs a unique address, this is achieved by carefully setting the dip switch on each module with a small screwdriver. The dipswitch on each module must match the setting in the CZone configuration.

The CZone Waterproof Keypad comes pre-loaded with a factory configuration to provide plug and play functionality when installed with a Contact 6 PLUS. The factory configuration provides basic switching functionality with ONE to ONE switch input to channel output mapping. For example, button one on the keypad will control output one on the Contact 6 PLUS, and button five will control output five.

2.3.1 Standalone Installation with Contact 6 PLUS

- Set the dipswitch on the Waterproof Keypad and Contact 6 PLUS to match the below table.
  - The Waterproof Keypads come with the dipswitch set to the factory configuration as per below table.
- Connect the Waterproof Keypad to the Contact 6 PLUS with the CZone Smart Harness or NMEA2000 network.
- Change any desired circuits to have momentary functionality instead of latching (see Initial Power up section).

2.3.2 Networked Installation

- To install a Waterproof Keypad with other networked CZone modules, or to achieve advanced functionality such as sequential button presses, circuit dimming or one touch modes of operation, a custom configuration needs to be installed.
- Set the dipswitch on the Waterproof Keypad to match the configuration file.
- All other CZone modules must have the dipswitch set to same as the configuration file.

The example below shows a dipswitch setting of 0000001 where 0 = OFF and 1 = ON
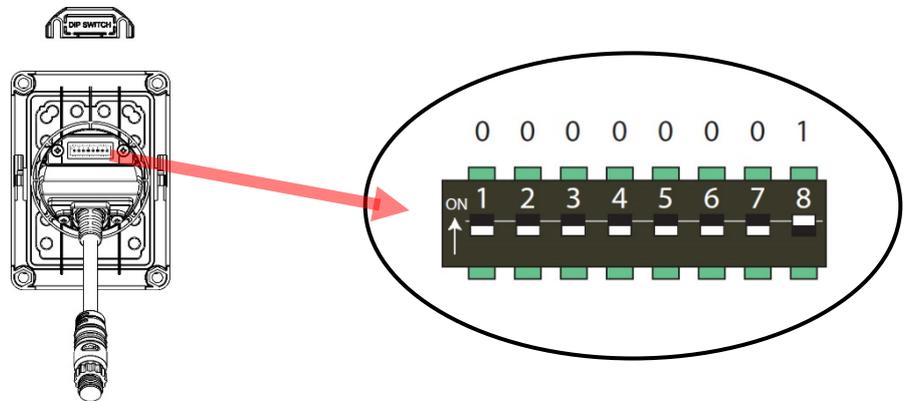
1. **Factory configuration table**

Module	Dipswitch
Contact 6 PLUS	10000000
Portrait Waterproof Keypad	00000001
Landscape Waterproof Keypad	00000011
Display Interface	11101000

NOTE – If you have a compatible MFD or Display Interface, the factory configuration will work and populate circuits 1 - 6 on the display for basic on/off control.

IMPORTANT - Each CZone device must have a unique dipswitch number and the dipswitch of the device must match the dipswitch set in the configuration file.

2.4 INITIAL POWER UP

2.4.1 Standalone Installation (with Smart Harness)

1. Power up the system.
2. Turn the switch/circuit breaker on supplying power to the system and networked modules (if fitted).
3. The LED indicators will flash as the system boots.
4. To toggle a circuit to momentary functionality, press and hold the power button and the button for that circuit together on the CZone Waterproof Keypad for 5 seconds. Press and holding the same buttons will toggle that circuit back to latching.
5. Test all circuits for ON/OFF functionality.
6. Check the circuit status LED's for each individual circuit. Refer to LED codes to diagnose any faults which need to be rectified.

### 2.4.2 Networked Installation (existing / new NMEA2000 network)

1. Power up the NMEA2000 network.
2. Check that the LED indicators flash to indicating the system is booting.
3. Turn the switch/circuit breaker on supplying power to output modules (if fitted).
4. Check the software version on the Waterproof Keypad with the CZone Configuration Tool and update if necessary.
5. Ensure all dipswitches are set to match the configuration.
6. Write the configuration file to the network (Refer to the CZone Configuration Tool Instructions for details on how to write a CZone configuration file).
7. Test all outputs for correctly configured functionality.
8. Check the circuit status LED's for each individual circuit. Refer to LED codes to diagnose any faults which need to be rectified.

2.5   ADDITIONAL FEATURES

The CZone waterproof keypad has some advanced functionality included which can be activated with some simple key press combinations, see below.

2.5.1   Backlight Dimming

The Waterproof Keypad features backlit circuit labels for easy low light operation. You can change the brightness level of the keypad by a short press on the power button. The backlight will cycle through 4 preset brightness levels.
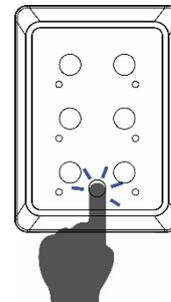
2.5.2   Backlight Color

The Waterproof Keypad uses RGB backlights allowing you to set your backlight to a color that suits your install and use case. You can cycle through 12 preset colors by holding the power button and repeatedly short pressing on button #1 or 2.
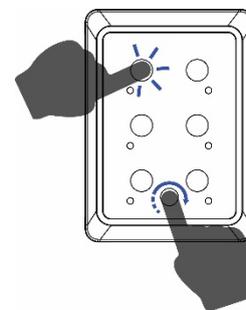
2.5.3   Momentary / Latching Switch Toggle

When installed with a Contact 6 PLUS any circuit can be toggled to operate as a momentary circuit. This means the output channel is only on while you are pressing the button, for example a horn circuit. You can toggle the operation of any circuit by push and holding the power button and the desired circuit button at the same time for 5 seconds. (Note, this functionality only works on a factory configuration).
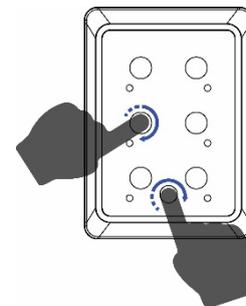
2.5.4   Power Down / Sleep State

The CZone Waterproof Keypad and Contact 6 PLUS have an ultra-low current draw sleep state. When you press and hold the power key for more than 3 seconds, all outputs on the Contact 6 PLUS will turn off and the system will go to sleep. Pressing the power button wakes the system up again.
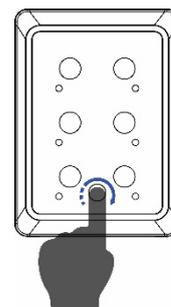
Short press   *Long press*
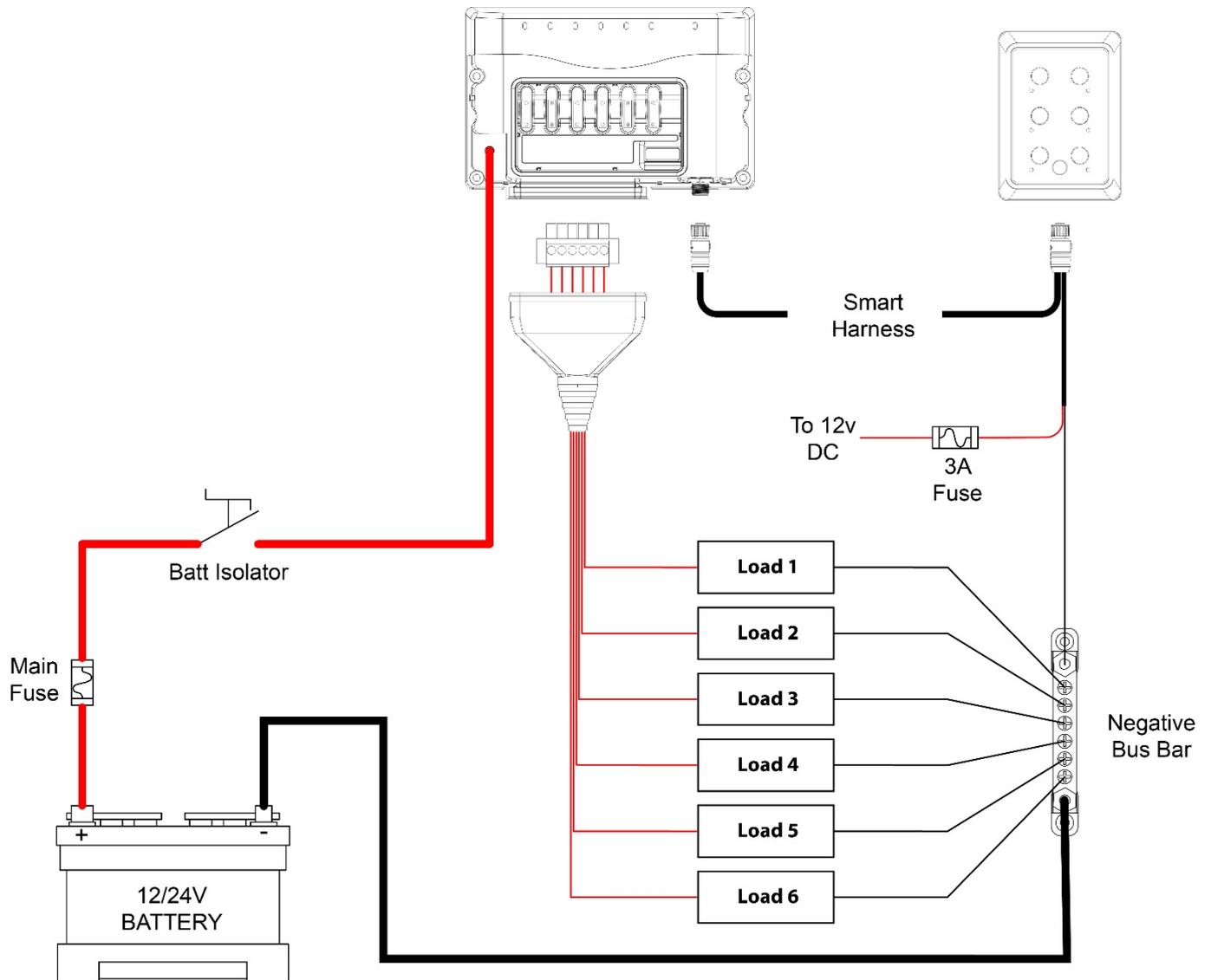
2.6 SYSTEM DIAGRAMS

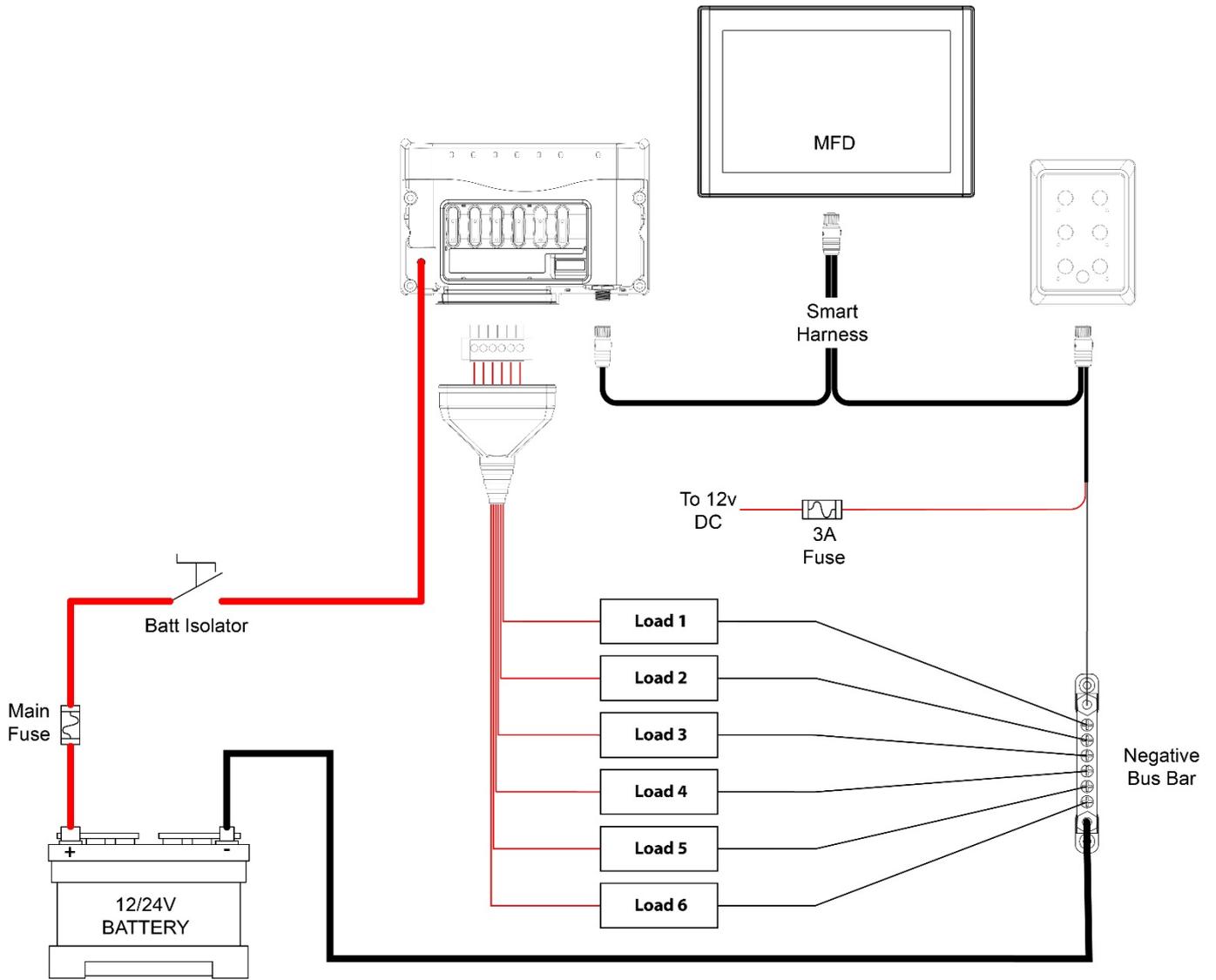**Figure 4. Basic System Diagram for Contact 6 PLUS System**

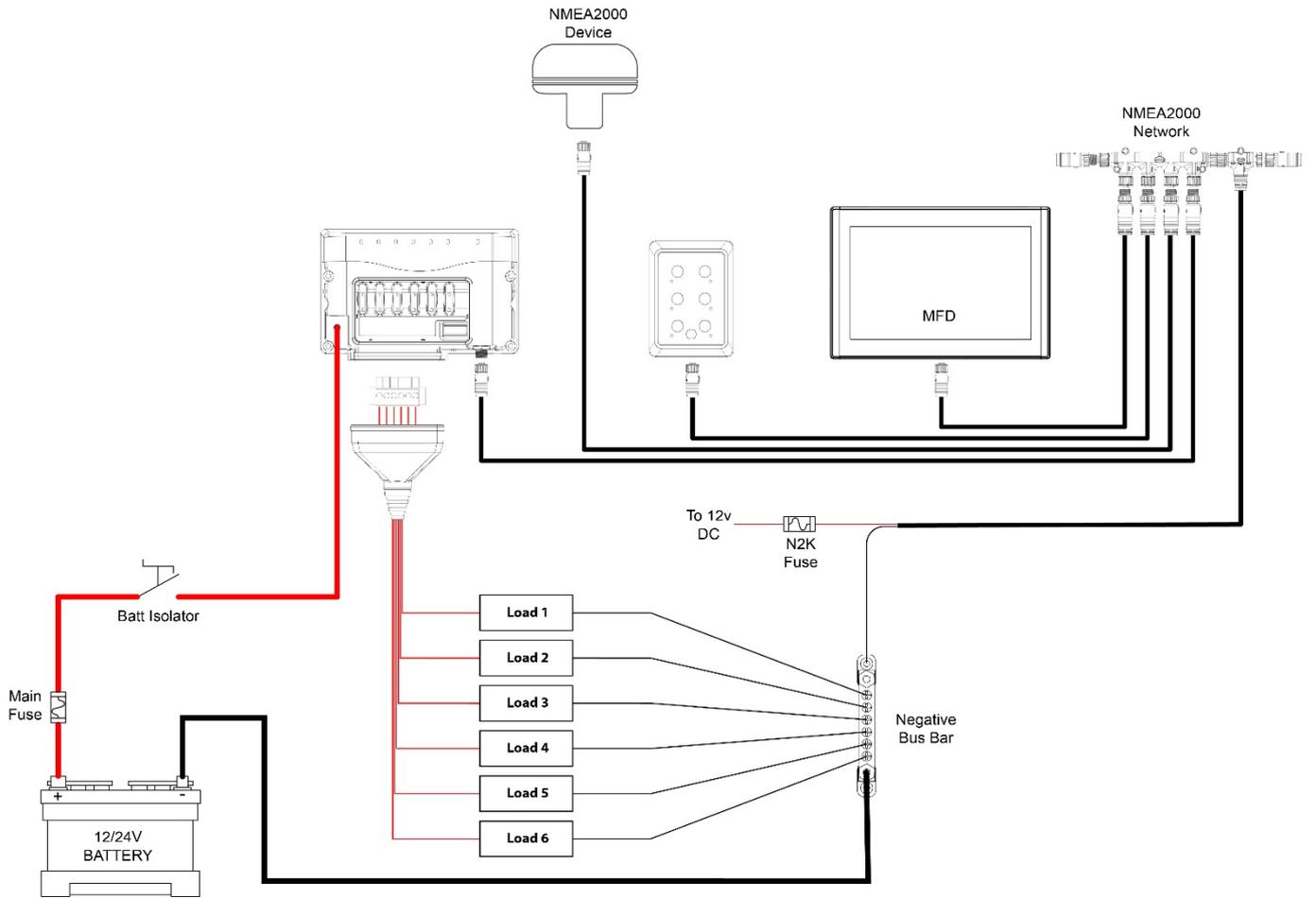**Figure 5. Basic System Diagram for Contact 6 PLUS with Extra Display**

Figure 6. Advanced System Diagram for Contact 6 PLUS with NMEA2000 Network

3 SPECIFICATIONS

3.0 TECHNICAL SPECIFICATIONS

Weight	115g (0.25lbs)
Power consumption max	56mA
Power consumption standby	1.8mA
NMEA2000 connectivity	1 x CAN Micro-C port
Warranty period	2 years
Operating temperature range	-15C to +55C (-5F to +131F)
Storage temperature range	-40C to +85C (-40F to +185F)
Portrait Dimensions W x H x D	77 x 107 x 32mm (3.03 x 4.21 x 1.26")
Landscape dimensions W x H x D	107 x 77 x 32mm (4.21 x 3.03 x 1.26")
Mounting type	Front and rear mount
Ingress protection	IPX7
Compliance	CE, ABYC, NMEA, ISO8846/SAEJ1171 Ignition Protected
Backlight color	RGB LED with dimming
Supply voltage	9-16V via CAN
Interface	Keypad

3.1   DIMENSIONS
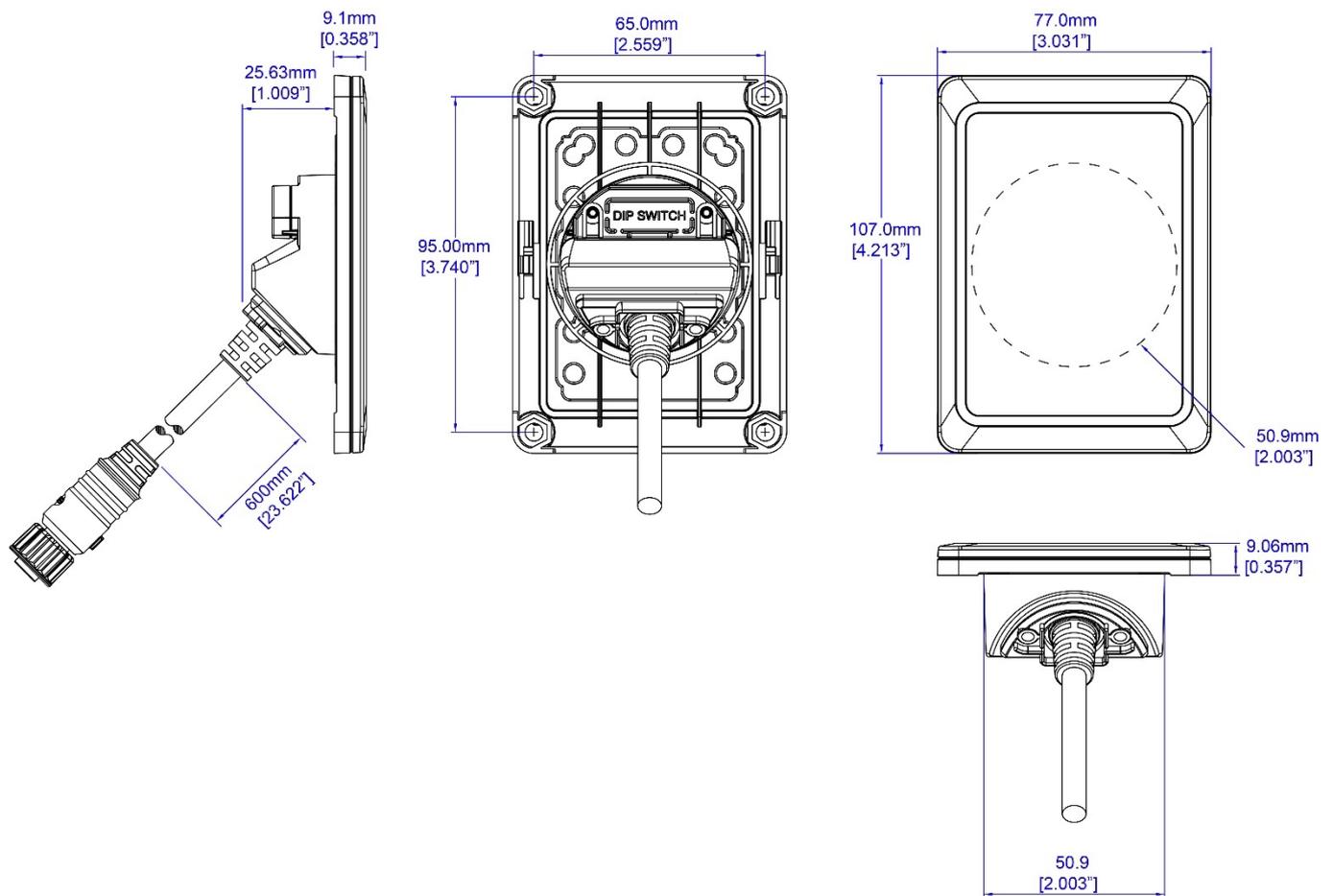
4   ORDERING INFORMATION

Waterproof Keypad Part Numbers and Accessories

Part Number	Description
80-911-0162-00	CZONE WATERPROOF KEYPAD (LANDSCAPE)
80-911-0163-00	CZONE WATERPROOF KEYPAD (PORTRAIT)
SET-KEYPAD-1	LABEL SET FOR CZONE WATERPROOF KEYPAD (MARINE)
80-911-0174-00	CZONE WATERPROOF KEYPAD SPARE PARTS KIT
80-911-0171-00	CZONE 2 MODULE SMART HARNESS
80-911-0172-00	CZONE 3 MODULE SMART HARNESS

5   CE DECLARATION OF CONFORMITY

EU declaration of conformity
EU-conformiteitsverklaring
EU-Konformitätserklärung
Déclaration UE de conformité
Declaración UE de conformidad
Dichiarazione di conformità UE

Name and address of the manufacturer:
Naam en adres van de fabrikant:
Name und Anschrift des Herstellers:
Nom et adresse du fabricant:
Nombre y dirección del fabricante :
Nome e indirizzo del fabbricante

BEP Marine Ltd
42 Apollo Drive, Rosedale
Auckland 0632
PO Box 101 739 NSMC
New Zealand

This declaration of conformity is issued under the sole responsibility of the manufacturer.
Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant.
Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante.
La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante

Object of the declaration:
Voorwerp van de verklaring:
Gegenstand der Erklärung:
Objet de la déclaration :
Objeto de la declaración
Oggetto della dichiarazione:

Czone Contact 6 PLUS
Czone Keypad 6W Portrait
Czone Keypad 6W Landscape

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
Het hierboven beschreven voorwerp is in overeenstemming met de desbetreffende harmonisatiewetgeving van de Unie:
Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:
L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable :
El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión:
L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:

- **2011/65/EU (RoHS directive)**
- **2013/53/EU (Recreational Craft Directive)**
- **2014/30/EU (Electromagnetic Compatibility Directive)**

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
Vermelding van de toegepaste relevante geharmoniseerde normen of van de overige technische specificaties waarop de conformiteitsverklaring betrekking heeft:
Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der anderen technischen Spezifikationen, in Bezug auf die die Konformität erklärt wird:
Références des normes harmonisées pertinentes appliquées ou des autres spécifications techniques par rapport auxquelles la conformité est déclarée:
Referencias a las normas armonizadas pertinentes utilizadas, o referencias a las otras especificaciones técnicas respecto a las cuales se declara la conformidad:
Riferimento alle pertinenti norme armonizzate utilizzate o riferimenti alle altre specifiche tecniche in relazione alle quali è dichiarata la conformità:

- **ISO 8846:2017** Small craft – Electrical devices – Protection against ignition of surrounding flammable gasses (ISO 8846:1990)
- **EN 60945:2002** Maritime navigation and radiocommunication equipment and systems

Auckland, New Zealand – 30th April 2019
BEP Marine LTD

Mark Griffith
Engineering Leader