

CZONE®

DDS

User & Installation Manual

V1.0



CE

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Important

BEP Marine 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

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1 GENERAL INFORMATION

1.1 USE OF THIS MANUAL

Copyright © 2022 BEP Marine. All rights reserved. Reproduction, transfer, distribution, or storage of part or all the contents in this document in any form without the prior written permission of BEP Marine is prohibited. This manual serves as a guideline for the safe and effective operation, maintenance, and possible correction of minor malfunctions of the CZone DDS, referred to as DDS in this manual.

This manual is valid for the following models:

<u>Description</u>	<u>Part number</u>
Czone DDS Interface Only	80-911-0260-01

It is obligatory that every person who works on or with the DDS is completely familiar with the contents of this manual, and that he/she carefully follows the instructions contained herein.

Installation of, and work on the DDS, may only be carried out by qualified, authorized, and trained personnel, consistent with the locally applicable standards and taking into consideration the safety guidelines and measures (chapter 2 of this manual). Please keep this manual in a secure place!

1.2 GUARANTEE SPECIFICATIONS

BEP Marine guarantees that this unit has been built according to the legally applicable standards and specifications. Should work take place which is not in accordance with the guidelines, instructions and specifications contained in this Installation manual, then damage may occur and/or the unit may not fulfil its specifications. All these matters may mean that the guarantee becomes invalid.

1.3 QUALITY

During their production and prior to their delivery, all our units are extensively tested and inspected. The standard guarantee period is two years.

1.4 VALIDITY OF THIS MANUAL

All the specifications, provisions and instructions contained in this manual apply solely to standard versions of the DDS, delivered by BEP Marine.

1.5 LIABILITY

BEP can accept no liability for:

- Consequential damage due to use of the DDS. Possible errors in the manuals and the results thereof.

1.6 CHANGES TO THE CZONE DDS

Changes to the DDS may be carried out only after obtaining the written permission of BEP.

2 SAFETY AND INSTALLATION PRECAUTIONS

2.1 WARNINGS AND SYMBOLS

Safety instructions and warnings are marked in this manual by the following pictograms:



CAUTION

Special data, restrictions, and rules with regard to preventing damage.



WARNING

A WARNING refers to possible injury to the user or significant material damage to the DDS if the user does not (carefully) follow the procedures.



NOTE

A procedure, circumstance, etc., which deserves extra attention.

2.2 USE FOR INTENDED PURPOSE

1. The DDS is constructed as per the applicable safety-technical guidelines.
2. Use the DDS only:
 - In technically correct conditions
 - In a closed space, protected against rain, moisture, dust, and condensation
 - Observing the instructions in the installation manual
3. Use of the DDS other than mentioned in point 2 is not considered to be consistent with the intended purpose. BEP Marine is not liable for any damage resulting from the above.

2.3 ORGANIZATIONAL MEASURES

The user must always:

- Have access to the user's manual and be familiar with the contents of this manual

2.4 MAINTENANCE AND REPAIR

- Switch off supply to the system
- Be sure that third parties cannot reverse the measures taken
- If maintenance and repairs are required, only use original spare parts

2.5 GENERAL SAFETY AND INSTALLATION PRECAUTIONS

- Connection and protection must be done in accordance with local standards
- Do not work on the DDS 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, burned cables, etc. must be corrected immediately

2.6 IDENTIFICATION LABELS

Important information for service or maintenance can be found on the identification labels.



Serial Number. Label located on top of the DDS unit.



Part Number. Label located on the front of the DDS unit.



CAUTION – Never remove the identification labels, this will void the warranty.

3 OVERVIEW

3.1 DESCRIPTION

The DDS module uses a combination of MOSFET switching technology and relay output channels to achieve a desirably small footprint. The CZone DDS has advanced bilge pump functionality on all relay output channels, allowing bilge pump control and external (automatic) voltage detection from a single wire.

3.2 FEATURES

- 12 or 24V system voltage (60A max)
- NMEA2000 interface
- 12 Relay channels
- 5 MOSFET channels with Over-Current Protection
- 3 Analog Inputs (Voltage or Resistance)
- 5 Positive/Negative Digital Outputs and Inputs
- 5 Positive Digital Outputs and Inputs
- Advanced bilge pump functionality on all relay output channels
- Automotive mini fuses (ATM fuses)
- 12 True bypass fuse position for relays
- Compliance – Ignition Protected, CE, RCM, FCC, UK-CA

3.3 DDS OVERVIEW

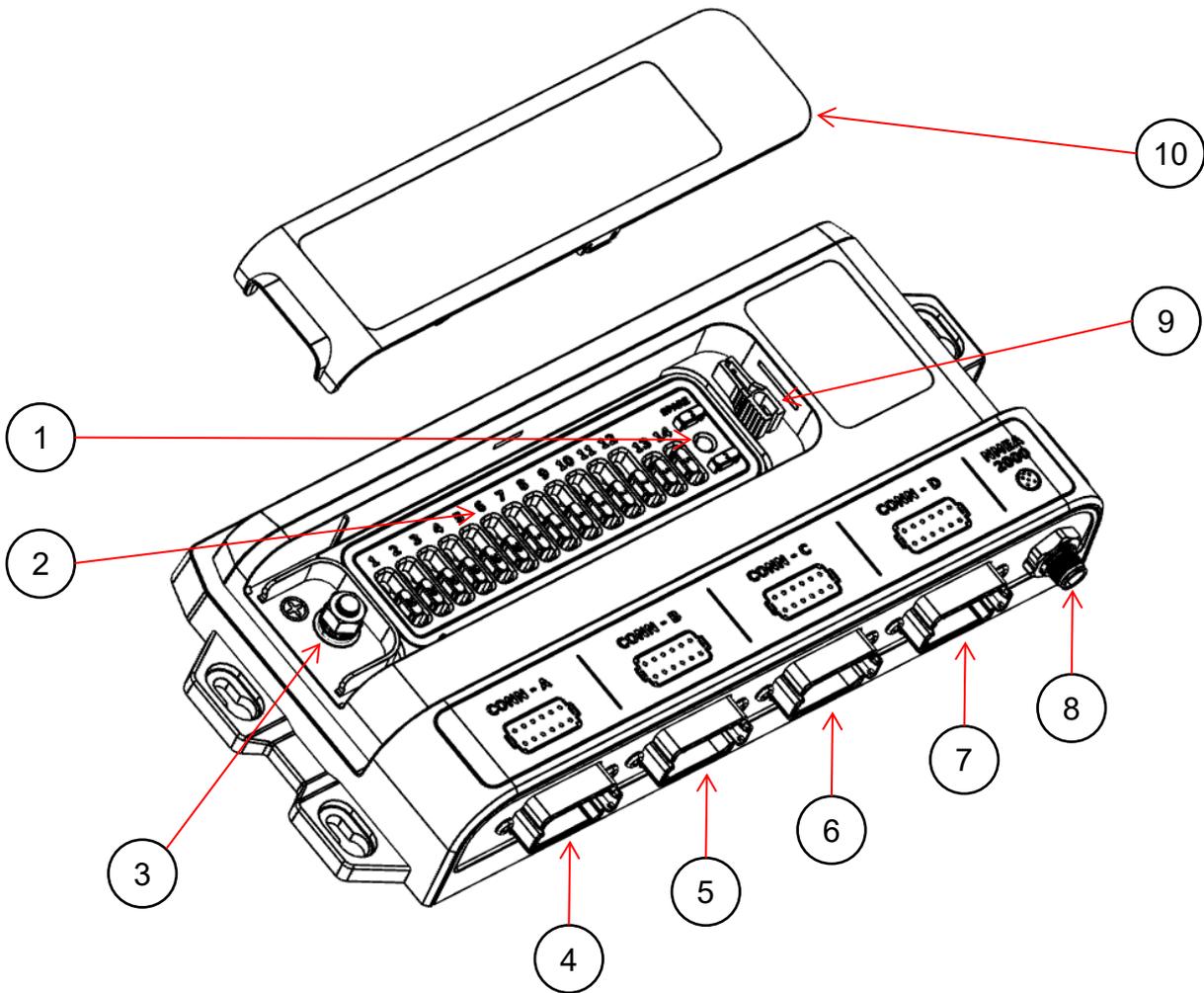


Figure 1. Product Overview

	Component
1	LED Indicator
2	Circuit Fuses
3	Main Positive Supply Terminal (M8 Stud)
4	Connector A - AT06-12SA
5	Connector B - AT06-12SB
6	Connector C - AT06-12SC
7	Connector D - AT06-12SD
8	NMEA2000 Micro C Connector
9	Fuse Removal Tool
10	Fuse Panel Cover

3.4 LED INDICATOR

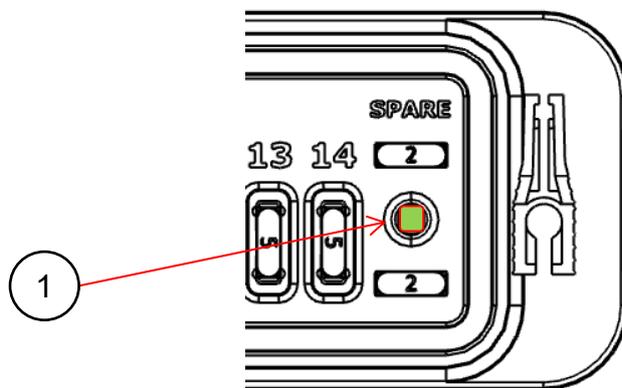


Figure 2. LED Indicator

1. LED Indicator

<u>Colour</u>	<u>Description</u>
Off	No Power
Solid Green	Normal / OK
Solid Red	Low Voltage
1 Red Flash	Module Not Configured
2 Red Flash	Configuration Conflict
3 Red Flash	DIP Switch Conflict
5 Red Flash	No Modules Detected
7 Red Flash	Over Current / Fuse Blown on Any Configured Output Channel
9 Red Flash	Missing Commander on Any Configured Output Channel

3.5 FUSE DETAILS

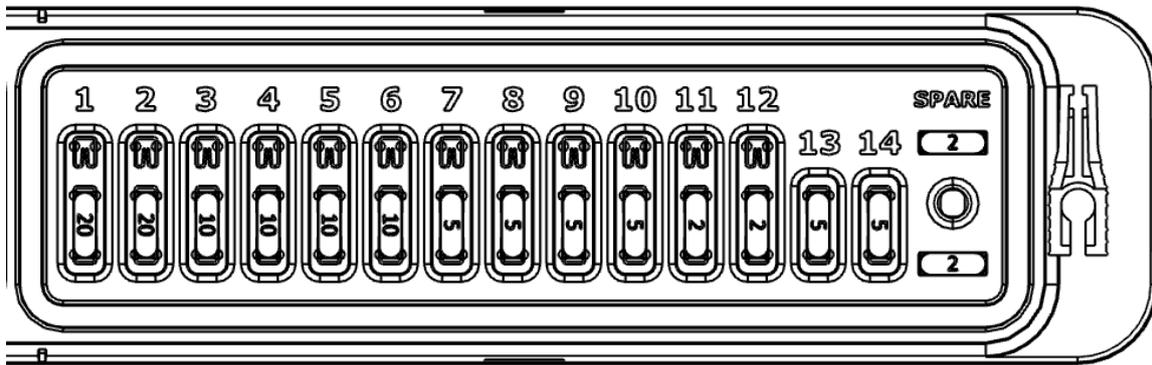


Figure 3. Fuse Details

Fuses are not included with the DDS Module. The DDS module supports EATON Bussmann ATM or Littelfuse® MINI® blade fuses.

<u>Fuse</u>	<u>Function</u>	<u>12V Max Channel Rating</u>	<u>24V Max Channel Rating</u>
1	20A Relay Output 1	20A	5A
2	20A Relay Output 2	20A	5A
3	10A Relay Output 1	10A	5A
4	10A Relay Output 2	10A	5A
5	10A Relay Output 3	10A	5A
6	10A Relay Output 4	10A	5A
7	5A Relay Output 1	5A	5A
8	5A Relay Output 2	5A	5A
9	5A Relay Output 3	5A	5A
10	5A Relay Output 4	5A	5A
11	2A Relay Output 1	2A	2A
12	2A Relay Output 2	2A	2A
13	5A 2x MOSFET Output	10A	10A
14	2A 3X MOSFET Output and Power Output	10A	10A



NOTE – Care must be taken with 24V systems, 20A and 10A channels are limited to 5A each.

3.6 CHANNEL BYPASS

The DDS relay output channels can be bypassed manually by changing the position of the fuse. If a channel is bypassed, the load will be powered directly via the fuse. The fuses need to be in the normal position for the output to be controlled via CZone.

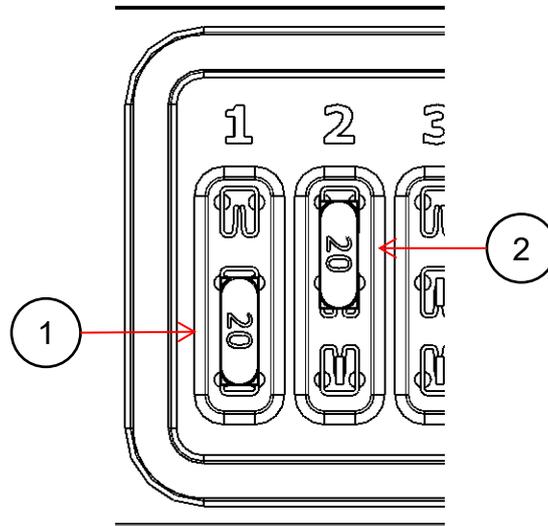


Figure 4. Circuit Bypass

<u>Position</u>	<u>Function</u>
1	Normal Operation
2	Bypass Operation

3.7 SYSTEM EXAMPLE

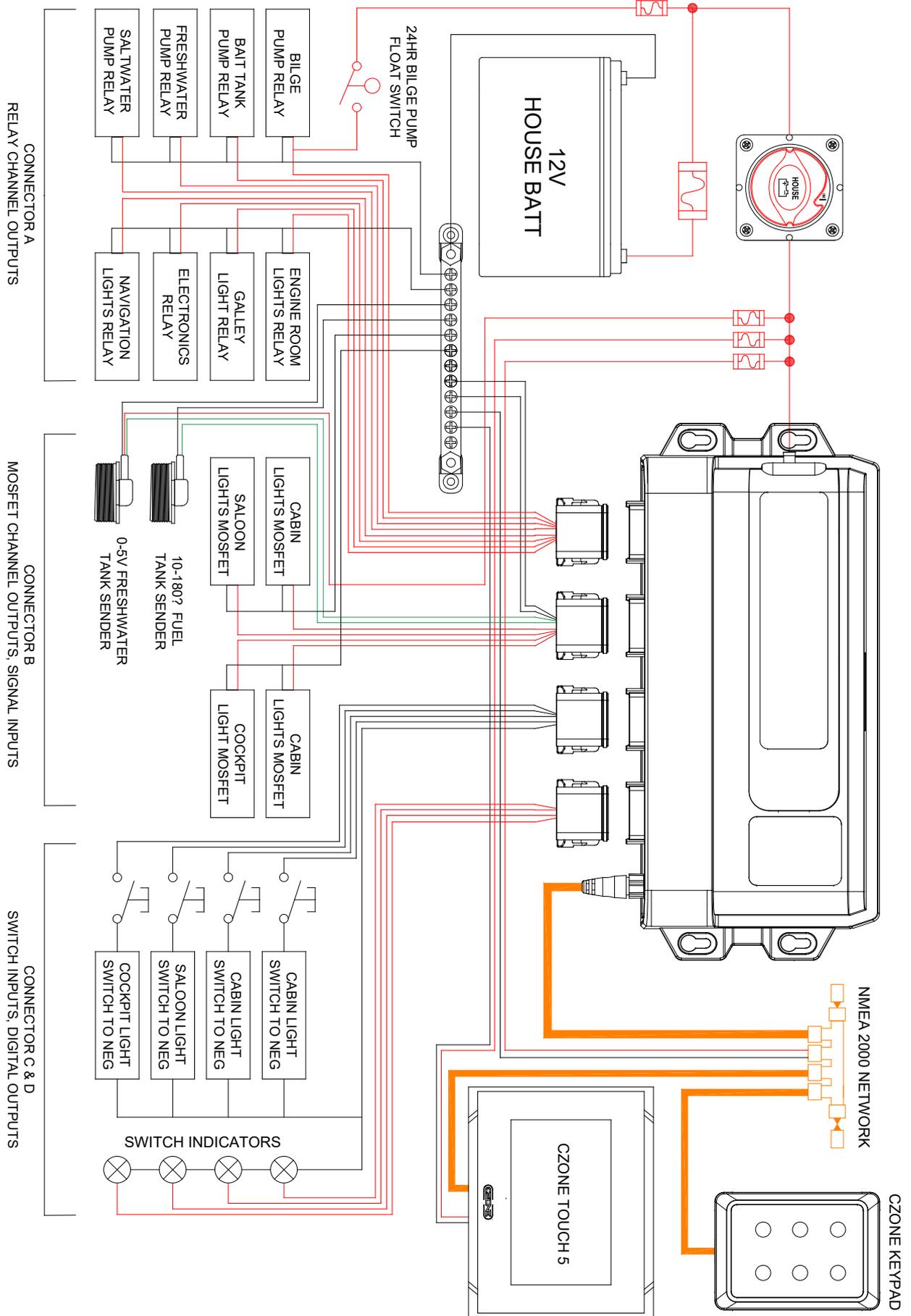


Figure 5. System Example

4 INSTALLATION

4.1 THINGS YOU NEED

- CZone DDS Interface
- CZone DDS Connector Kit (80-911-0261-00)
- 4 x 10G (5mm) panhead self-tapping screws or bolts for mounting DDS to surface (not supplied)
- HDT-48-00 Deutsch crimp tool for crimping 0.5mm-4mm (20-12AWG) wire
- NMEA2000 drop cable and T-connector
- Screwdriver and drill bits
- Electrical Tools
- Silicone grease (lubricating connector seals)



Figure 6. Deutsch HDT-48-00 Crimp Tool

4.2 ENVIRONMENT

Obey the following stipulations during installation:

- Ensure the DDS is located in an easily accessible location for quick access to module.
 - Ensure mounting location is well ventilated and free from moisture. For small enclosures, fan forced ventilation should be considered.
 - Ensure LED indicator is easily visible for troubleshooting.
 - Ensure circuit labels are fitted and all channels labelled correctly.
 - The DDS must be mounted at least 50mm away from high current carrying conductors such as anchor winches, bow thruster cables, speakers, transformers, and other high inductive loads.
 - Ensure the bulkhead that the unit will be attached to is sufficiently strong to take the weight of the unit and attached cables.
 - Ensure there is at least 10mm clearance around the sides and top of the DDS.
 - All connectors must be installed to achieve IP65 rating with unused channels blocked with blocking pins (Amphenol Part # 114017).
-

4.3 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 water can follow the cables into the device.

Do:

- Consider the overall width and height requirements.
- Leave sufficient clearance to connect all relevant cables.
- Check that it is possible to route cables to the intended mounting location.

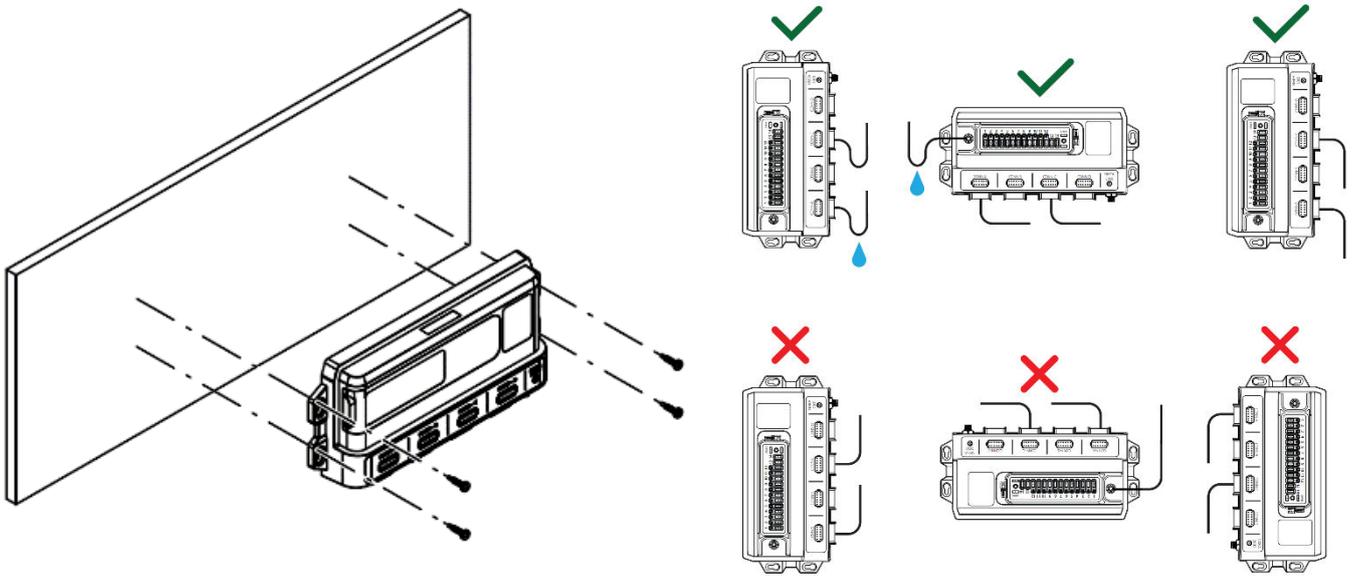


Figure 7. Mounting

1. Place the DDS on a solid flat surface. Mark the lower screw locations.
2. Remove the DDS and partially install lower screws using 10G (5mm) self-tapping screws or bolts.
3. Slot the DDS on to the bottom screws and install upper retaining screws.
4. Torque down each mounting screw, 6Nm (53.1in/lbs.) max.
5. Ensure enough space is left below the DDS to easily install cable connectors and access for maintenance.



NOTE – If mounting vertically is required, the main positive stud of the DDS must remain orientated downwards with connections made to the right-hand side of the module.

4.4 PLANNING

Make a list of all inputs and outputs to be wired to the DDS and take note of the output channel ratings and input channel functions as shown in the tables below. Assign each input and output to a channel on the DDS, ensuring loads are wired to the appropriate channel rating and function.

- **Relay Output** – Relay switched output channels, suitable for general loads, take note of current rating for each channel on 12V and 24V systems.
- **MOSFET Output** – MOSFET driven outputs can be set to ON/OFF or Pulse Width Modulation (PWM) mode to dim lights during configuration. Inrush current will need to be kept below 130% of maximum channel current.
- **Signal Input** – 0-30V or 0-1000ohm, e.g. 0-5V Sender, 10-180ohm Sender, 240-33ohm Sender.
- **Switch Input** – Switch Inputs, take note of channel POS or NEG support.
- **Digital Output** –
 - Up to 150mA output driving unsuppressed inductive loads. E.g., relay coil.
 - Up to 250mA output driving non-inductive loads such as indicators, control circuits etc. (Relay coils up to 250mA require the addition of a freewheeling diode)
- **System Ground** – Required to be grounded to vessel/vehicle common ground.
- **Power Output** – 24 hour fused output for positive input channels.
- **Ground** – Common ground for switch to NEG references or status LED grounds.

Connector A (Grey)	
PIN #	Function
A1, A12	20A Relay Output 1 (Both pins required to be paralleled for loads over 10A)
A2, A11	20A Relay Output 2 (Both pins required to be paralleled for loads over 10A)
A3	10A Relay Output 1
A4	10A Relay Output 2
A5	10A Relay Output 3
A6	10A Relay Output 4
A7	5A Relay Output 1
A8	5A Relay Output 2
A9	5A Relay Output 3
A10	5A Relay Output 4
Connector B (Black)	
PIN #	Function
B1	2A Relay Output 1
B2	2A Relay Output 2
B3	Signal Input 1
B4	Signal Input 2
B5	Signal Input 3
B6	System Ground
B7	System Ground
B8	5A MOSFET Output 2
B9	5A MOSFET Output 1
B10	2A MOSFET Output 3
B11	2A MOSFET Output 2
B12	2A MOSFET Output 1

Connector C (Green)	
PIN #	Function
C1	Switch Input 1 (POS/NEG)
C2	Switch Input 2 (POS/NEG)
C3	Switch Input 3 (POS/NEG)
C4	Switch Input 4 (POS/NEG)
C5	Switch Input 5 (POS/NEG)
C6	Power Output
C7	Ground
C8	Digital Output 5 (POS/NEG)
C9	Digital Output 4 (POS/NEG)
C10	Digital Output 3 (POS/NEG)
C11	Digital Output 2 (POS/NEG)
C12	Digital Output 1 (POS/NEG)
Connector D (Brown)	
PIN #	Function
D1	Switch Input 6 (POS)
D2	Switch Input 7 (POS)
D3	Switch Input 8 (POS)
D4	Switch Input 9 (POS)
D5	Switch Input 10 (POS)
D6	Power Output
D7	Ground
D8	Digital Output 10 (POS)
D9	Digital Output 9 (POS)
D10	Digital Output 8 (POS)
D11	Digital Output 7 (POS)
D12	Digital Output 6 (POS)

4.5 CONNECTIONS

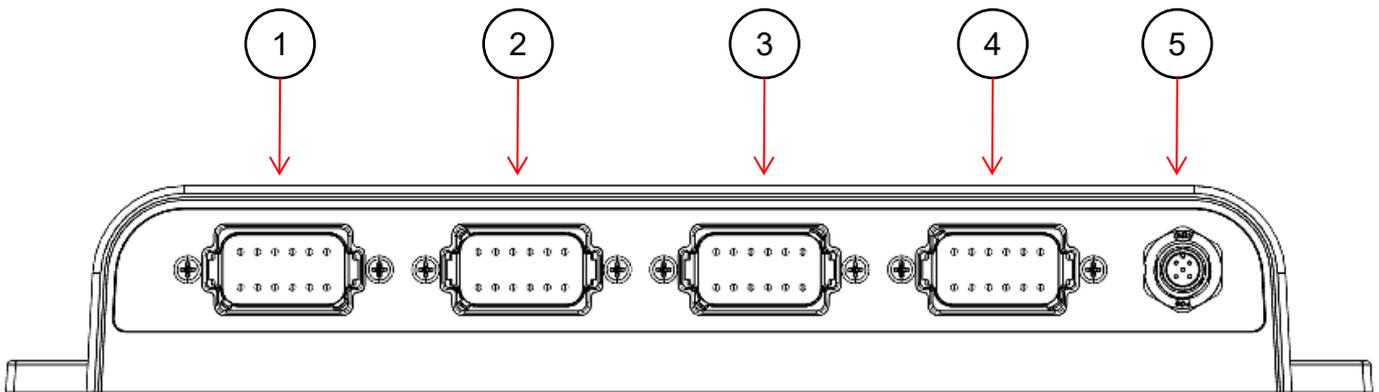


Figure 8. Connections

1. **Connector A** consists of 10x positive relay outputs. Carefully check each required load against the table above taking into consideration the relay channel ratings.
 1. Referring to the load list, strip and crimp the output channel cables with the appropriate Amphenol contact and crimp tool.
 2. Insert the contacts into the AT06-12SA plug following the plugs position numbers and secure using the locking wedge.
 3. Any unused pins in the connector should be plugged with sealing plugs to maintain the IP65 rating. (Amphenol Part # A114017).
 4. Before inserting the connector it's highly recommended to apply a small amount of silicone grease along the sealing surfaces/gasket. This will make assembly/disassembly easier.
 5. Insert the connector into the DDS until it clicks into place.
 6. Secure and neaten up the cables against the bulkhead to reduce the strain on the connectors.

 **NOTE** – For 20A relay channels 1 and 2, if the connected load exceeds 10A both pins of the channel must be connected in parallel to the load. Both legs of the channel require external 10A fuses fitted before they parallel together. Both channel output pins will be live with output turned on, if only one pin is required, a sealing plug (Amphenol Part # A114017) should be inserted into unused pin.

2. **Connector B** consists of 2x positive relay outputs, 5x MOSFET outputs, 3x analog inputs and the system ground inputs. Carefully check each required load/input against the table above taking into consideration channel function and limitations.
 1. Referring to the load and analog input list, strip and crimp the cables with the appropriate Amphenol contact and crimp tool.
 2. Insert the contacts into the AT06-12SB plug following the plugs position numbers and secure using the locking wedge.
 3. Any unused pins in the connector should be plugged with sealing plugs to maintain the IP65 rating. (Amphenol Part # A114017).
 4. Before inserting the connector it's highly recommended to apply a small amount of silicone grease along the sealing surfaces/gasket. This will make assembly/disassembly easier.
 5. Insert the connector into the DDS until it clicks into place.
 6. Secure and neaten up the cables against the bulkhead to reduce the strain on the connectors.

 **NOTE** – System Ground inputs on Connector B MUST be connected to vessel/vehicle common ground.

3. **Connector C** consists of 5x Pos/Neg switch inputs and 5x Pos/Neg 250mA digital outputs. Carefully check the channel limitations in the table above.
 1. Referring to the switch input and digital output list, strip and crimp the cables with the appropriate Amphenol contact and crimp tool.
 2. Insert the contacts into the AT06-12SC plug following the plugs position numbers and secure using the locking wedge.
 3. Any unused pins in the connector should be plugged with sealing plugs to maintain the IP65 rating. (Amphenol Part # A114017).
 4. Before inserting the connector it's highly recommended to apply a small amount of silicone grease along the sealing surfaces/gasket. This will make assembly/disassembly easier.
 5. Insert the connector into the DDS until it clicks into place.
 6. Secure and neaten up the cables against the bulkhead to reduce the strain on the connectors.

4. **Connector D** consists of 5x switch inputs (positive only) and 5x 250mA digital outputs (positive only). Carefully check the channel limitations in the table above.
 7. Referring to the digital input and digital output list, strip and crimp the cables with the appropriate Amphenol contact and crimp tool.
 8. Insert the contacts into the AT06-12SD plug following the plugs position numbers and secure using the locking wedge.
 9. Any unused pins in the connector should be plugged with sealing plugs to maintain the IP65 rating. (Amphenol Part # A114017).
 10. Before inserting the connector it's highly recommended to apply a small amount of silicone grease along the sealing surfaces/gasket. This will make assembly/disassembly easier.
 11. Insert the connector into the DDS until it clicks into place.
 12. Secure and neaten up the cables against the bulkhead to reduce the strain on the connectors.



NOTE – Connector D digital inputs are 'Switch to POS' only and digital outputs are 250mA POS output only.

5. Connect NMEA2000 network

1. Connect a NMEA2000 drop cable from the DDS to the vessel/vehicle NMEA2000 backbone.
2. Ensure the NMEA2000 network is properly terminated and connected to a 12V power source (Do not power up network yet).

6. Connect DC Positive

1. Connect an appropriately sized and fused cable from the battery positive terminal to the DDS's M8 positive stud.
2. The positive cable must be of sufficient size to carry the maximum current of all loads connected to the DDS and have a fuse/circuit breaker rated to protect the cable, volt drop should be kept to a minimum.
3. Maximum recommended cable size is 50mm² (1/0 AWG). Cables larger than 50mm² (1/0 AWG) should be connected to a joiner stud first with a link to the DDS.
4. Ensure the M8 nut is torqued to 3.9Nm (34.5in/lbs.).

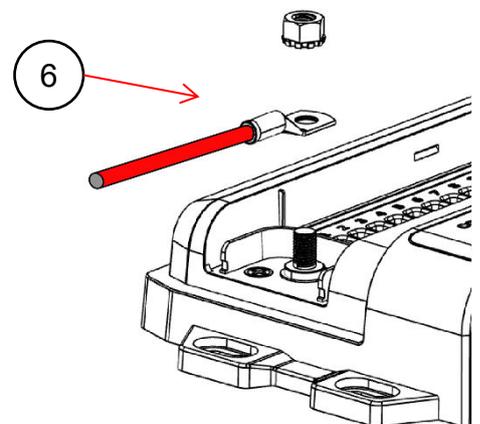


Figure 9. Positive Terminal

4.6 INITIAL POWER UP

1. Check all plugs are securely seated and power connections are tight.
2. Turn the switch/circuit breaker on supplying the DDS's main positive stud.
3. Power up the NMEA2000 network.
4. Connect to NMEA2000 network via CAN-USB interface and open CZone Configuration Tool.
5. Set DIP Switch for new module. Instructions for setting the DIP switch in the CZone Configuration Tool is available in Section 4.8.
6. With the CZone Configuration Tool, check the software version of all modules on the network, including the DDS, and update if necessary.
7. Write configuration file to the DDS and the rest of the CZone modules on the system (Refer to the CZone Configuration Tool Instructions for details on how to configure the system).
8. Test all inputs and outputs for configured functionality.

4.7 CIRCUIT LABELING

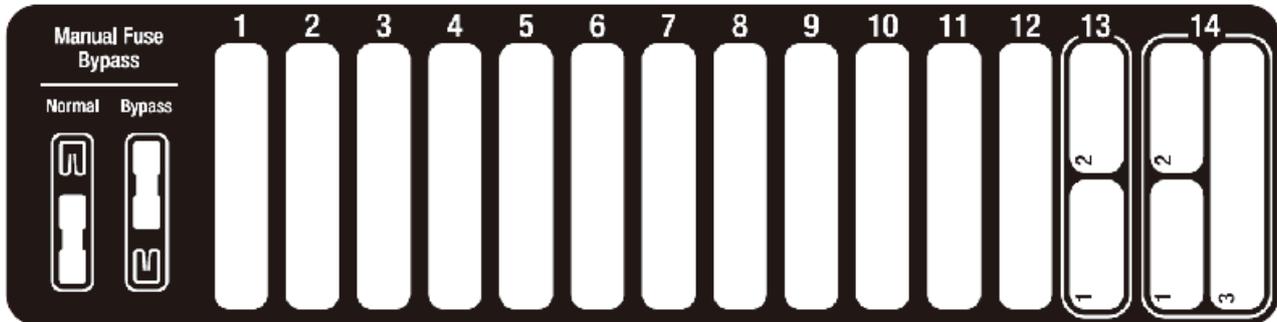


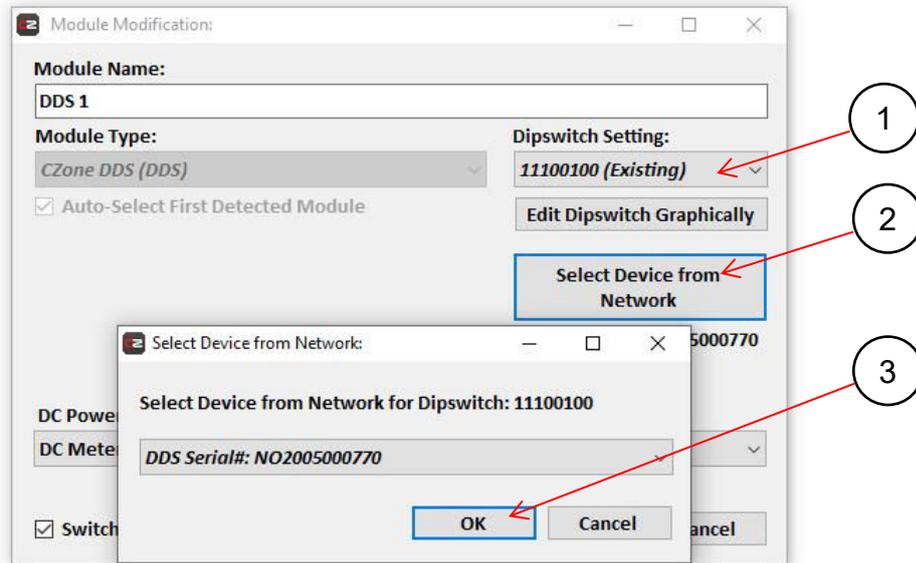
Figure 10. CZone DDS Labeling

Label the Circuits

- Using a fine tip marker pen, label each output corresponding to the configured load.
- Correct labelling of the loads will make fault finding of the vessel/vehicle system easier.

4.8 SETTING DIP SWITCH

As there are no physical DIP switches on the DDS, the unit will come with a factory default DIP switch setting of 11111111. If there is more than one DDS or a conflicting DIP switch on the network, the installer can explicitly set the DIP switch of a detected DDS from the Configuration Tool.



1. When adding the DDS module to a configuration, select the DIP switch setting, either from the dropdown or 'Edit Dipswitch Graphically' tab.
2. Select the DDS unit you are targeting from the list. The serial number can be found on the label on top of the DDS module.
3. Click 'OK' on both windows to add new module to configuration.

5 Field Replacement Procedure

Field replacement of a DDS is possible unless there is more than one DDS in a system or there is an absence of another CZone device. The DDS replacement will require a copy of the vessel's/vehicle's configuration, a laptop with the CZone Configuration Tool, and a USB-CAN adaptor to write the config to the new module.

Field replacement of a DDS is possible under the following circumstances:

- There is only one DDS module in the vessel's/vehicle's CZone configuration.
- There is another CZone device present on the network.

If the above circumstances are true, replacement is possible with the following steps:

1. Turn off the breaker supplying the faulty DDS's main power stud and switch off the power supplying the CZone NMEA2000 network, disconnect the faulty DDS module's connections.
2. Remove the faulty module and replace with a new one. Connect each of the connectors, the NMEA2000 drop cable, and main positive stud.
3. Re-power the NMEA2000 network and the DDS's main supply.
4. Wait for the new module to claim the config that is present on the network (indicated by flashing LEDs).
5. If the configured DDS DIP switch is different to that of the new DDS, the new DDS will automatically change its DIP switch to the configured value.

6 Bilge Pump Monitoring

The CZone DDS has advanced bilge pump functionality on all relay output channels. This allows pump control and external (automatic) voltage detection from a single wire. CZone status indicators will illuminate if an external voltage is detected from automatic float switches or CZone can trigger system alarms to notify owners of automatic bilge pump operation, and optionally use this run signal to turn on other circuits, like additional pumps. You can track total run time of pumps and display the information on CZone Display Interfaces. Delays can be configured to the 'External Systems On Alarm' to stop nuisance alarm tripping from a float switch.

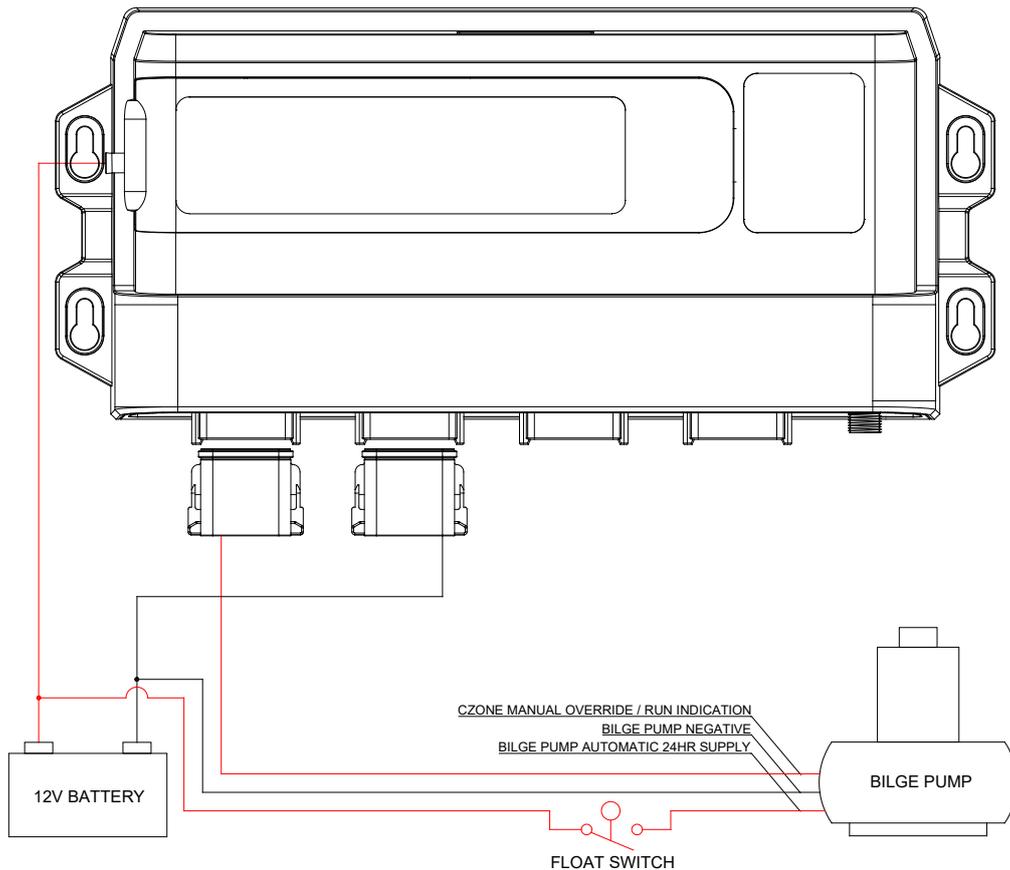


Figure 11. Bilge Pump Monitoring

7 Ordering Information

7.1 PARTS AND ACCESSORIES

<u>Part Number</u>	<u>Description</u>
80-911-0260-01	Czone DDS Interface Only
80-911-0261-00	Czone DDS Connector Kit

7.2 CONNECTOR KIT

CZone DDS Connector Kits come with Amphenol connector parts. Amphenol and Deutsch parts are interchangeable.

<u>Amphenol</u>		
<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
AT06-12SA	Connector A	1
AT06-12SB	Connector B	1
AT06-12SC	Connector C	1
AT06-12SD	Connector D	1
AW12S	Locking Wedge	4
AT62-201-16141	Socket	48
A114017	Seal Plug, White	12

<u>Deutsch</u>		
<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
DT06-12SA	Connector A	1
DT06-12SB	Connector B	1
DT06-12SC	Connector C	1
DT06-12SD	Connector D	1
W12S	Locking Wedge	4
0462-201-16141	Socket	48
114017	Seal Plug, White	12

8 Specifications

8.1 TECHNICAL SPECIFICATIONS

Specifications	
Main Supply Voltage	12V/24V DC (9V-32V min/max)
Circuit protection	MINI Blade Fuse, Max Interrupting Capacity 1000A, Max Voltage 32VDC
NMEA2000 connectivity	1 x CAN Micro-C port, 1 LEN
Switch Banks	2
Output wire range	0.5 - 2mm (14AWG – 20AWG)
Maximum current	60A 12V/24V Total Module Current
Power consumption sleep	<120mA
Power supply	M8 Positive Terminal (Max Torque 3.9Nm (34.5in/lbs))
Network Supply voltage	9-16V via NMEA2000
Circuit bypass	Mechanical Bypass on Relay Output Channels
Ingress protection	IP65 (with fuse cover in place)
Maximum Shock Resistance	20G
Compliance	Ignition Protected (with fuse cover in place) CE, RCM, NMEA2000, UK-CA
Warranty period	2 years
Operating temperature range	-25C to +70C (-13F to +158F)
Storage temperature range	-40C to +85C (-40F to +185F)
Dimensions W x H x D	351.4mm x 164.5mm x 53.0mm
Weight	1040g (no connectors)

8.2 NMEA 2000 PGN'S

PGN Number	Description	Fields
127508	Battery Status	Battery Voltage
127505	Fluid Level	Fluid Level
130312	Temperature	Actual Temperature
130314	Pressure	Pressure
130316	Temperature, Extended Range	Actual Temperature

8.1 DIMENSIONS

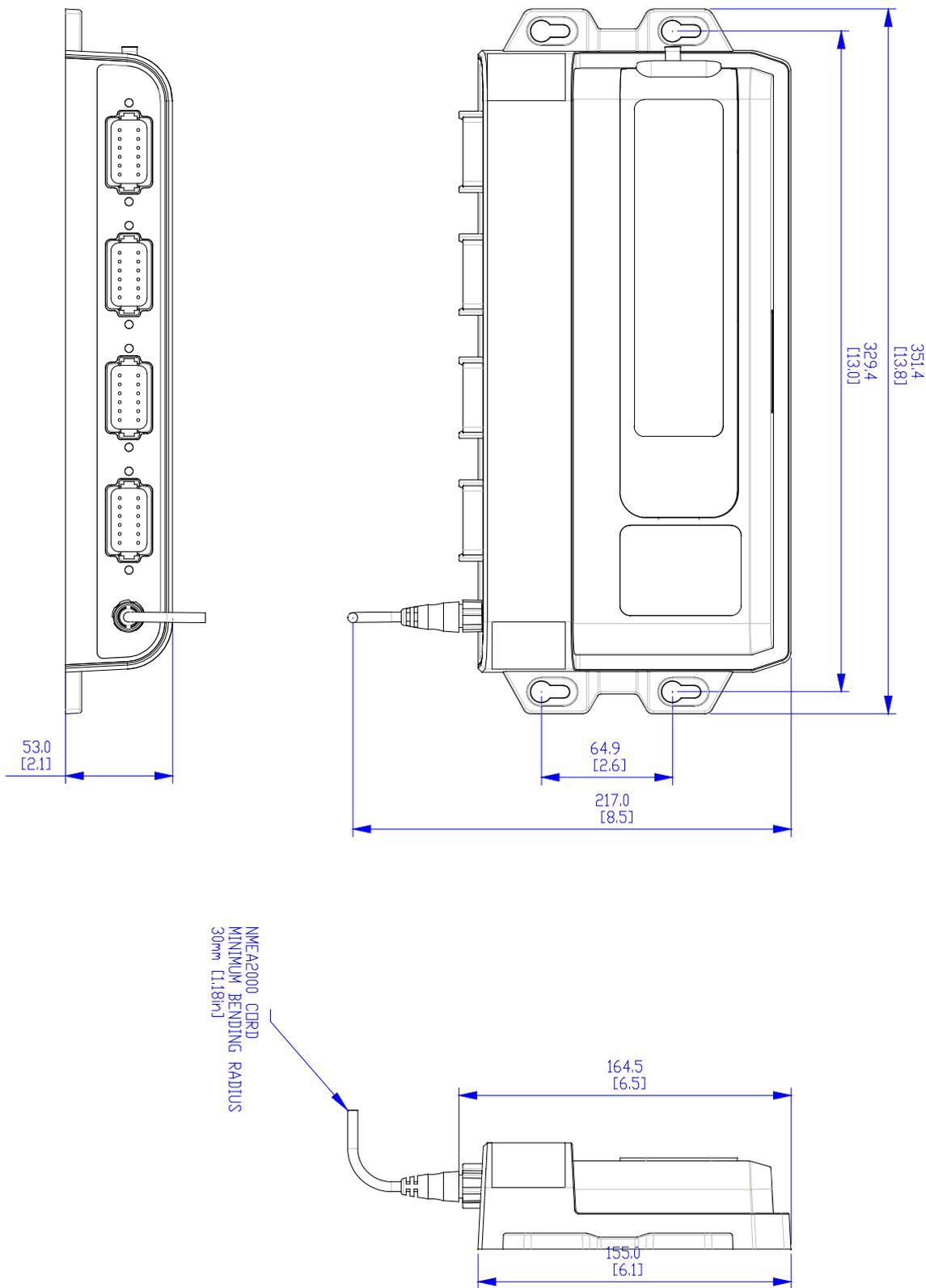


Figure 12. CZone DDS Dimensions

9 COMPLIANCE

UK declaration of conformity



Location of Technical File: New Zealand, Auckland 0632

Name and address of the manufacturer: **ASG New Zealand
BEP Marine Ltd
42 Apollo Drive
Auckland 0632
PO Box 101739 NSMC
New Zealand**

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration: **80-911-0260-01 CZone DDS (Dynamic Digital Switching)**

The object of the declaration described above is in conformity with the relevant UK legislation:

- SI 2016 No 1091 **EMC Regulations 2016**
- SI 2012 No 3032 **RoHS Regulations 2012**

References to the relevant designated standards used or references to the other technical specifications in relation to which conformity is declared:

EN 60945:2002 Maritime navigation and radiocommunication equipment and systems

June 9, 2022

Mark Griffith
Engineering Director, ASG New Zealand (BEP Marine LTD)

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

Location of Technical File:

New Zealand, Auckland 0632

Name and address of the manufacturer: **ASG New Zealand**
 Naam en adres van de fabrikant: **BEP Marine Ltd**
 Name und Anschrift des Herstellers: **42 Apollo Drive**
 Nom et adresse du fabricant: **Auckland 0632**
 Nombre y dirección del fabricante: **PO Box 101739 NSMC**
 Nome e indirizzo del fabbricante: **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

Name and address of the authorized Representative: **Advanced Systems Group EMEA BV**
 Naam en adres van de gemachtigde: **Snijdersbergweg 93,**
 Name und Anschrift des bevollmächtigten Vertreters: **1105 AN Amsterdam, NL**
 Nom et adresse du représentant autorisé :
 Nombre y dirección del representante autorizado:
 Nome e indirizzo del rappresentante autorizzato:

Object of the declaration: **80-911-0260-01** **CZone DDS (Dynamic Digital Switching)**
 Voorwerp van de verklaring:
 Gegenstand der Erklärung:
 Objet de la déclaration :
 Objeto de la declaración
 Oggetto della dichiarazione:

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:

- 2014/30/EU **EMC Directive**
- 2011/65/EU and amendment (EU) 2015/863 **RoHS 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:

EN 60945:2002**Maritime navigation and radiocommunication equipment and systems**

June 9, 2022

Mark Griffith
 Engineering Director, Advanced Systems Group APAC