



## Output Interface (OI)/Motor Output Interface (MOI)

### Product descriptions:

#### Output Interface (OI):

The Output Interface module is where the circuit control and protection takes place, these modules have been designed to be mounted in many locations around the vessel to bring the circuit control and protection closer to the load

#### Motor Output Interface (MOI)

The Motor Output Interface is designed for loads such as trim tabs and hatch lifters where a polarity reversal is required to change the direction of the motor, it also has two standard output channels

### OI/MOI Features:

- 6x 20A circuits per module (OI)
- 2x 20A Circuits per module (MOI)
- 1x 20A "H Bridge" output for controlling direction of DC motors through polarity change (MOI)
- Each circuit channel is programmable to offer circuit protection with settable break currents ranging from 200mA to 20Amps
- Multiple channels can be bridged together to offer higher current switching
- Selectable fusing characteristics to cater for various load types ie Slow and fast blow, characteristics found in traditional mechanical fuses and circuit breakers
- LED indication for individual circuit and network status (see LED Flash codes below)

#### Robust, reliable electronic design

- Each FET is rated to 75A
- Isolated ground giving electronics protection from ground loops

- Manual Systems override, In case of mechanical failure to network a mechanical override is provided on the OI for each circuit in the form of an ATC fuse. Remove the fuse and place into the bypass position to bypass the OI control

#### 4 levels of fusing

- Mechanical fuse
- Hardware short circuit protection
- Software short circuit protection
- Software over current protection

- IPX5 water ingress protection

Power consumption: @12V: 85mA (standby 60mA)

#### Weights:

OI = 659g  
MOI = 609g

#### Pulse width modulation (Current Control)

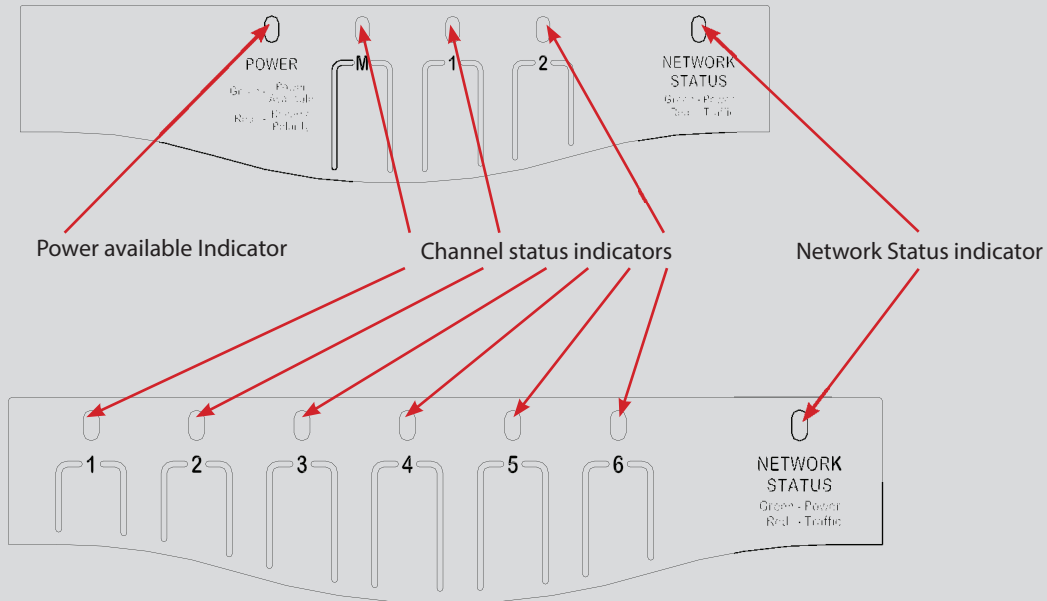
- Dimming control of lighting circuits
- Smooth start effect for turning lighting on gradually
- Soft start for prolonging the life of halogen bulbs through limiting the shock on the filament by high inrush currents found during normal cold switch on. Can also be used to reduce large inrush currents on motors.
- Timer functionality
- Plug and play configuration
- Inputs
- Network, NMEA 2000
- 5 – 35V DC

#### EMC ratings:

- IEC EN 60945
- IEC EN 61000
- FCC Class B
- ISO 7637 - 1 (12V Passenger cars and light commercial vehicles with nominal 12 V supply voltage - Electrical transient conduction along supply lines only)
- ISO 7637 - 2 (24V Commercial vehicles with nominal 24 V supply voltage - Electrical transient conduction along supply lines only)
- IEC Standards for indirect lighting strikes

#### Dimensions:

H 128mm (5") x W200mm (7"29/32) x D 45mm (1"3/4)



#### Power available Indicator MOI only

- Extinguished = No input power connected
- Green = Input power available
- Red = Input power reverse polarity

#### Network Status Indicator

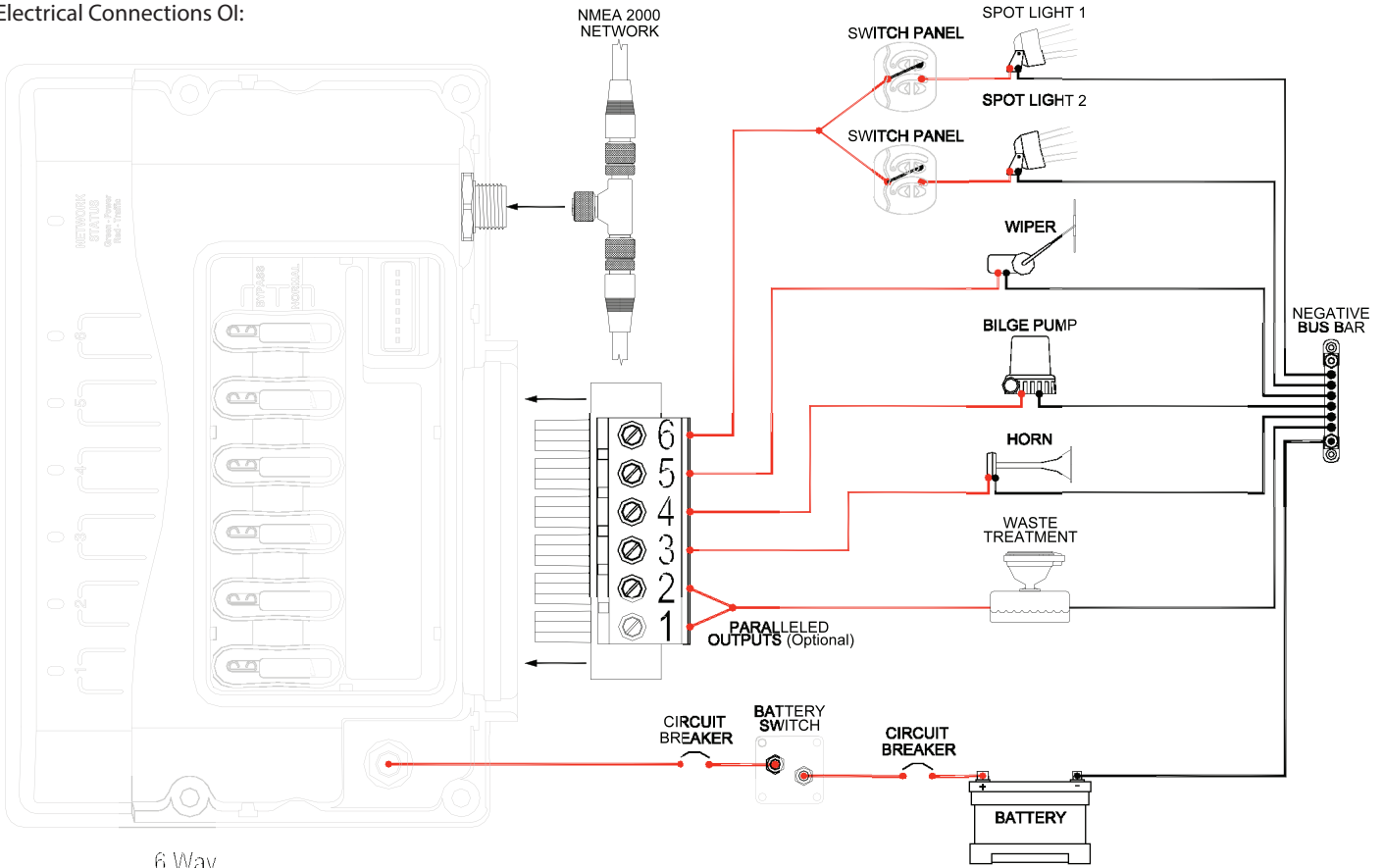
- Extinguished = Network power disconnected
- Green = Network power connected
- Red = Network traffic

#### Channel Status Indicators

- Gn solid on — Channel on
- Gn slow flash — Channel in timer mode
- 1 x RED — Channel not configured
- 2 x RED — Configuration conflict
- 3 x RED — Dip switch conflict
- 4 x RED — Memory comms failure
- 5 x RED — No modules detected
- 6 x RED — Low Run Current
- 7 x RED — Over current
- 8 x RED — Short circuit
- 9 x RED — Missing commander
- 10 x RED — Reverse current
- 11 x RED — Current calibration

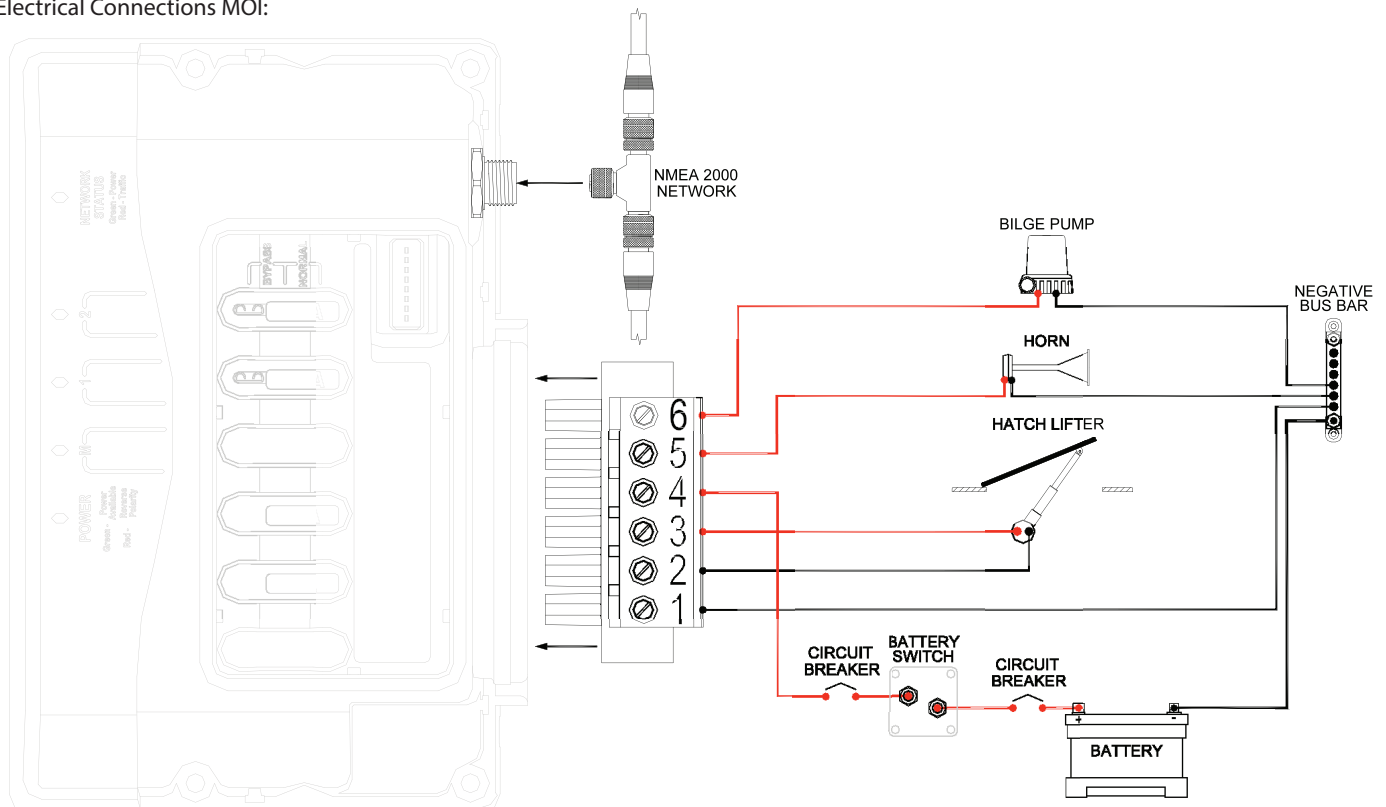
# Connections

### Electrical Connections OI:



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### Electrical Connections MOI:



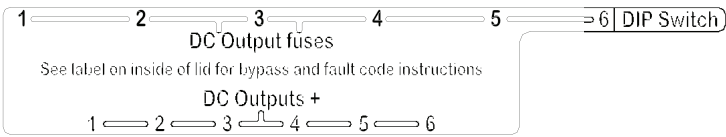


## Labelling

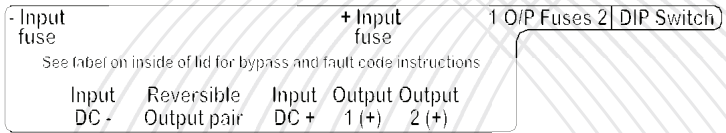
### Connections label

This label is located between the output connection and the bypass fuses, it gives the field user or installer an indication of the connections without the need to refer to a manual

### OI



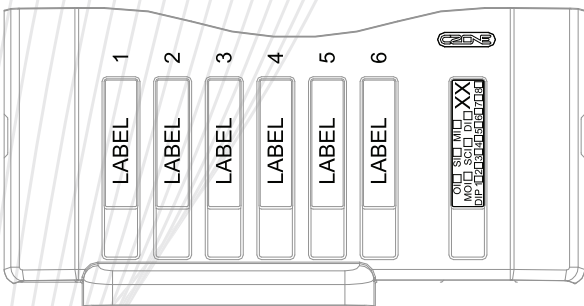
### MOI



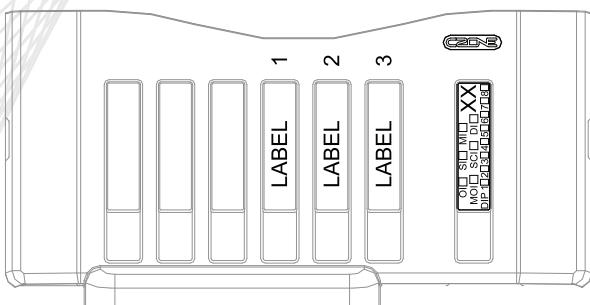
### Circuit Identification labels

Standard BEP circuit breaker panel labels are used to indicate the circuit name for each output

### OI



### MOI

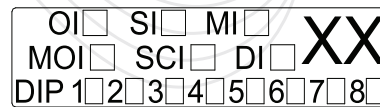


### LED flash code label

This label is located on the inside of the front lid of the unit, it shows the LED codes and an instruction on how to manually bypass the circuits

LED Flash Codes:	Fault Description:	Manual Bypass:
Gn solid on	Channel on	Remove fuse from "normal" (lower) position and place into "bypass" (upper) position <b>Ignition Danger!</b> Ensure area is free of explosive gases before removing or replacing fuse!  Fuse in bypass position
Gn slow flash	Channel in timer mode	
1 x RED	Channel not configured	
2 x RED	Configuration conflict	
3 x RED	Dip switch conflict	
4 x RED	Memory comms failure	
5 x RED	No modules detected	
6 x RED	Low Run Current	
7 x RED	Over current	
8 x RED	Short circuit	
9 x RED	Missing commander	
10 x RED	Reverse current	
11 x RED	Current calibration	

### Module Identification and Dipswitch label



These labels allow easy identification of each module whilst recording the dipswitch setting. These labels are to be fitted to the cover and to the module (this prevents covers being swapped). To record the module type and dipswitch settings use a permanent marker and strike through the applicable boxes (a strike through



## Installation Guidelines

Ensure the modules are installed vertically with the cables exiting downwards

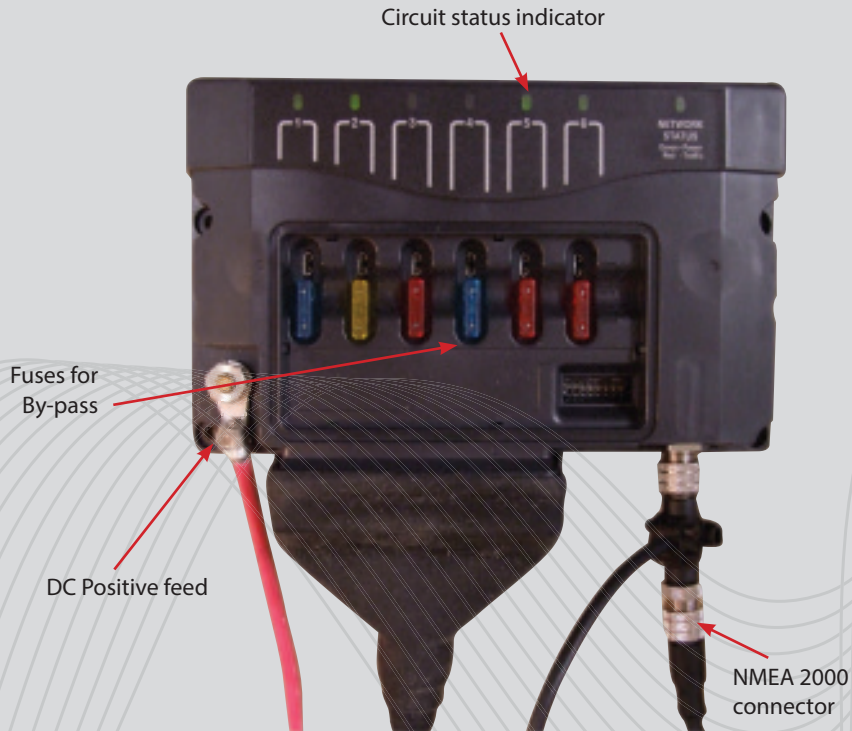
All seals and cable glands must be fitted including blanking plugs inserted in any unused positions.

Any DC cables carrying 100Amps or more must be mounted 50mm or more from any OI or MOI

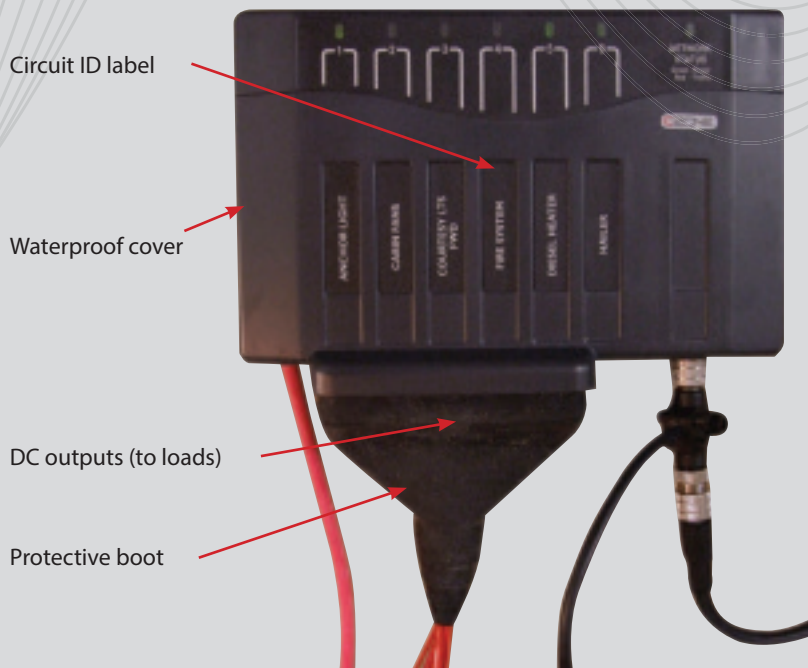
Ensure all labels are fitted and correct

### Pictorial Overview

OI with cover removed

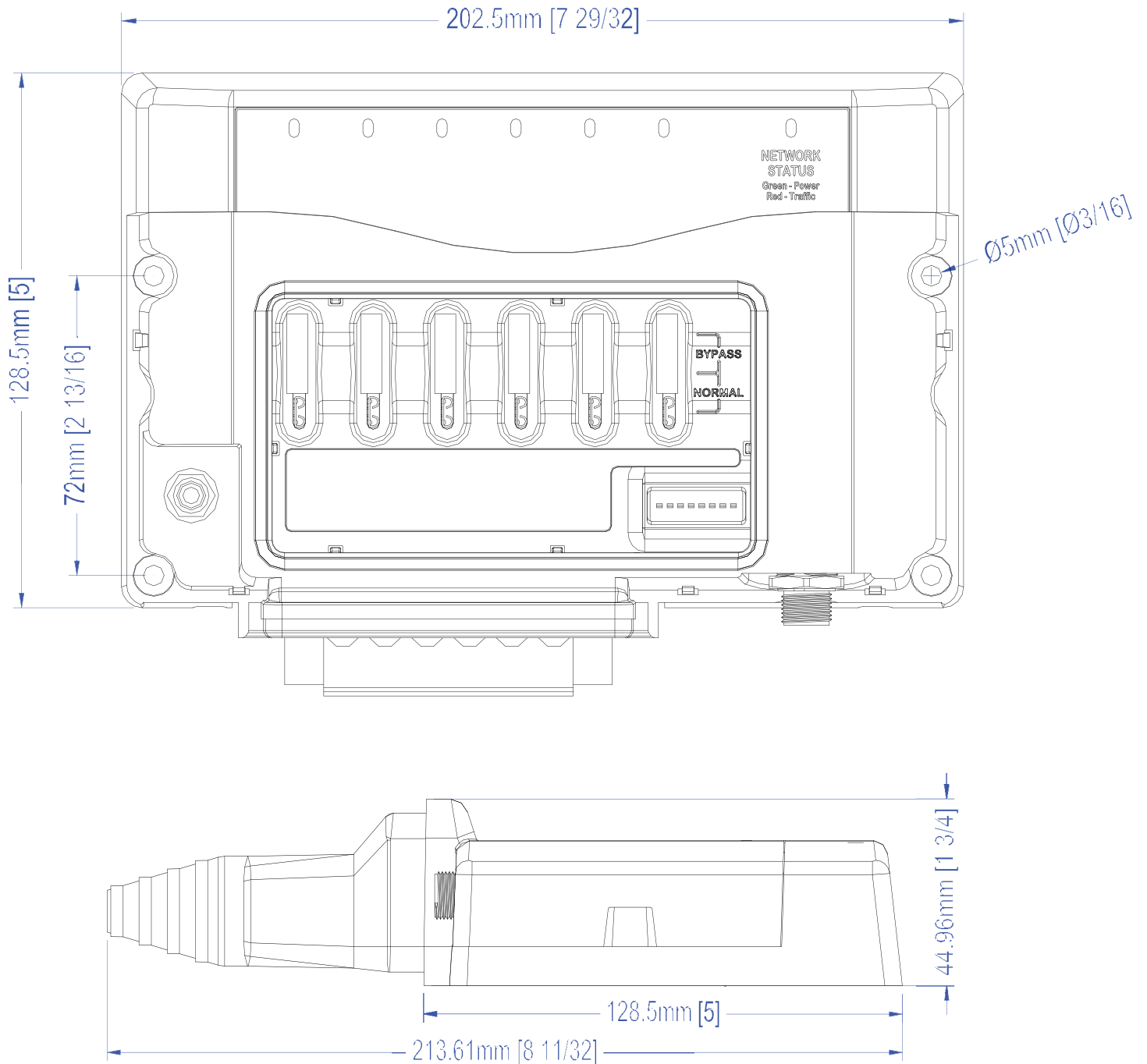


OI with cover Fitted





## Dimensions





## Dimensions

