

Shallow Water FOCE Node Electronics Housing

25W Housekeeping

H-Bridge/  
Controller

H-Bridge/  
Controller

8-Port Ethernet  
Switch

Control Board

Camera/Light Power Switching  
Gateway Node Power Switching  
Ground Fault Detection  
UARTS (2) for Motor Controllers  
48V to Low Volts DC  
Environmental Sensing

Gateway Node

150W  
300W Max

Carrier Board (supports 4 SNs)

Sensor Node Power Switching  
Environmental Sensors  
Ground Faulting  
48V Isolation  
Data Archive

48Vdc Relays  
Imax = 2A (each)



24Vdc  
RS-232

75W

24Vdc  
RS-232

75W

Gateway Node #2 Connection

48Vdc  
10/100 Ethernet

Fwd Motor Assy

Aft Motor Assy

Aft Motor 75W  
Fwd Motor 75W  
Elec Housing 25W  
Center Cam/Light 50W  
Gateway Node 150W

375W

Cam/Light #2 50W  
Cam/Light #3 50W

475W

Gateway Node (Max) 150W

625W

Future Add-Ons

Camera

24Vdc  
Ethernet

50W

Light

Camera

24Vdc  
Ethernet

50W

Light

Camera

Pan  
Tilt

24Vdc  
Ethernet

50W

Light

Sensor Node

48Vdc  
RS-232

5W  
75W Max

12Vdc  
RS-232

12Vdc

12Vdc  
RS-232

pH Probe

12Vdc  
RS-232

pH Probe

12Vdc  
RS-232

pH Probe

Sensor Node

20W  
75W Max

48Vdc  
RS-232

12Vdc  
RS-232

12Vdc

12Vdc  
RS-232

CTD - Ext

12Vdc  
RS-232

CTD - Int

12Vdc  
RS-232

Flowmeter

Sensor Node

40W  
75W Max

48Vdc  
RS-232

24Vdc  
RS-232

24Vdc

24Vdc  
RS-232

Directional  
Relay Assy

24Vdc  
RS-232

ADCP

Sensor Node

40W  
75W Max

48Vdc  
RS-232

12Vdc  
RS-232

12Vdc

12Vdc  
RS-232

PAR Sensor

12Vdc  
RS-232

PAR Sensor

12Vdc  
RS-232

Vector

MONTEREY BAY AQUARIUM RESEARCH INSTITUTE

7700 SANDHOLDT ROAD

MOSS LANDING, CA 95039

(831) 775-1700 www.mbari.org

Copyright MBARI 2000

Title swFOCE Block Diagram

Number <Doc>

Size C

Engineer Chad Kacy

Layout <Layout Eng.>

Filename <Filename>

Rev C

Date: Monday, December 31, 2012

Sheet

1 of 1