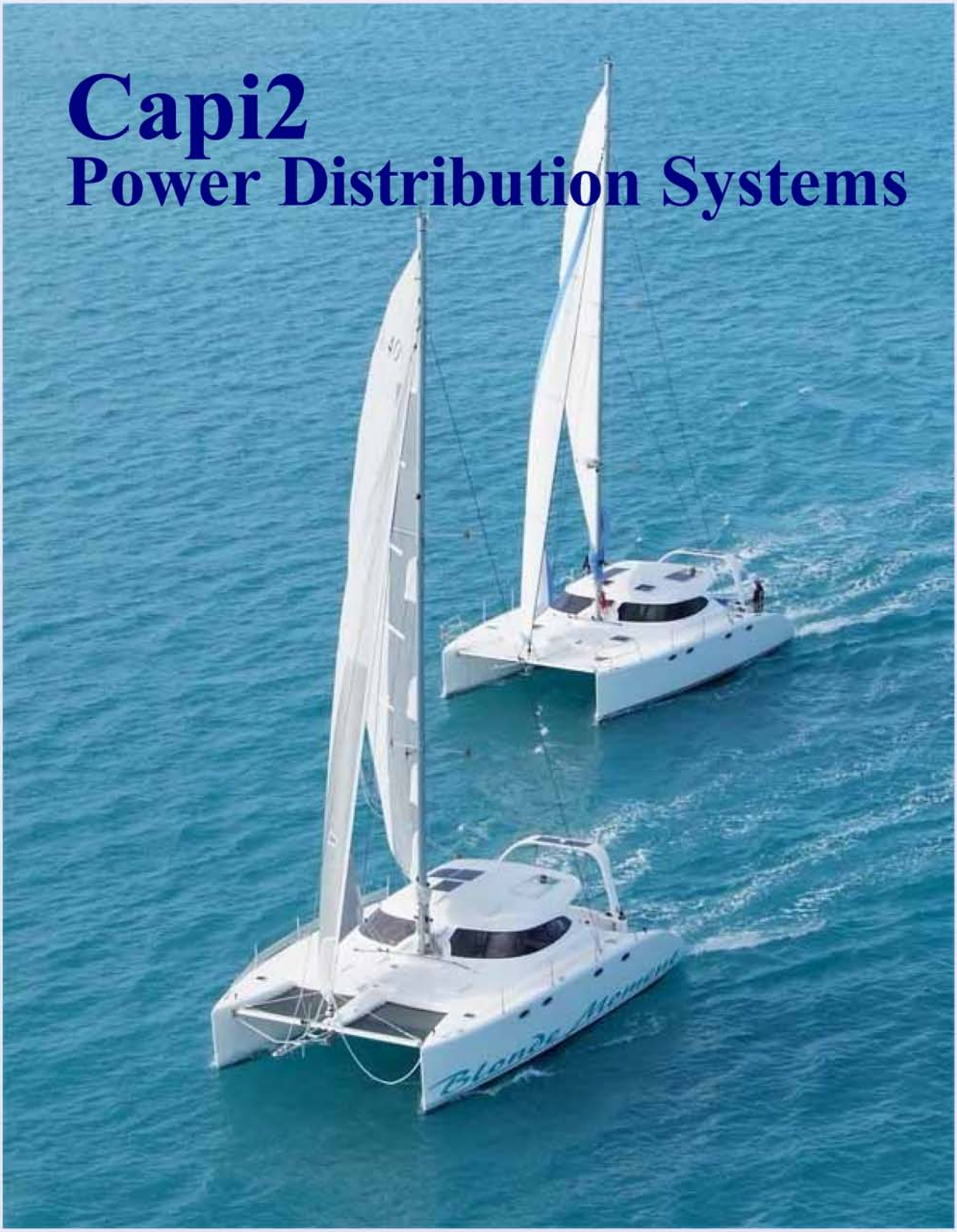
CAPI2

# Capi2
## Power Distribution Systems



*Preferred by Fusion Catamarans*

MEMBER ABYC
Setting Standards for Safer Boating

CE

www.capi2.com

*Capi2 is a product from Capi2 Nederland BV, a Dutch/Swedish company based in The Netherlands*

## About us

Our mission is to produce a non-complex, easy to operate, access, and maintain power distribution system which can be simply installed by everyone.

*Capi2 are a leading supplier of Power Distribution Systems worldwide, supplying mainly electricians and Yacht Builders Capi2 is meant for both series production and one time, Custom Builds*

## Company profile

Capi2 Nederland BV is manufacturing a broad range of products, including power nodes, (thermal) fuse nodes, sensor nodes, node bases, circuit breakers, panels, navigation boards, fuse boxes, cabling, cable cutters, installation software.

Capi2 excel in the development of products to meet each of their key market's unique specifications and requirements. Always with an increasing level of technology convergence between several markets, Capi2 Nederland BV also is uniquely well positioned to develop solutions that combine technologies from multiple industry sectors. Capi2 Nederland BV is committed to being among the leaders who drive the development of new industry standards and groundbreaking developments in distributed power systems.

# Advantages

Capi2 offers several advantages. In the first place the use of this system reduces the need of cables by up to 60%. Add the easy way to install the system (simple 'snap on" nodes, no soldering) and a reduction of labor costs of 25-60% can be expected.

Since every node contains a fuse, the risk for short circuit and cable or system overload is reduced. Faults can easily be recognized and located by the overload protection indicator in the switch panel. This switch panel is compact in design and includes a backlight for use at night.

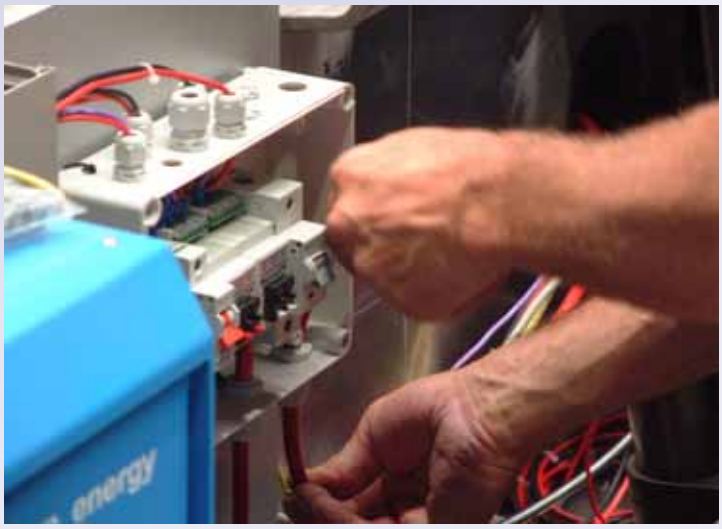
*We at Capi2 develop and produce bus systems that give you a 12V-24V system for power supply and information feedback that:*

- Is easy to install
- Is easy to configure
- Is easy to use
- Is easy to upgrade
- Is easy to maintain
- Uses one node for each load
- Minimizes the amount of cables and weight by 60%
- Indicates: Wire failure, Low voltage, High power consumption
- Features a backup system in case of failure
- Gives excellent value for money

# STANDARD (5)

## 1. Safety

- **Feed back on:** Gives the possibilities to get a feed back on the switch panel when a cable/lamp is broken. Can be used for navigation lamps.
- **Short circuit:** An indicator on the switch panel indicates which circuit has a short circuit. The circuit can be reset at the push-button panel.
- If the communication between node and buss generator for



any reason would break then does nodes with priority 1 automatically turn on.

- There is also a hardware fuse node. This node can be placed anywhere on the bus cable and with its fuse the bus system be over ruled.
- Alarms: Can be used to show high water in a compartment or detection of open/closed hatches/sea cocks.
- Location of alarm signal: alarm signal can be both audible and visible and located at different places on the boat.

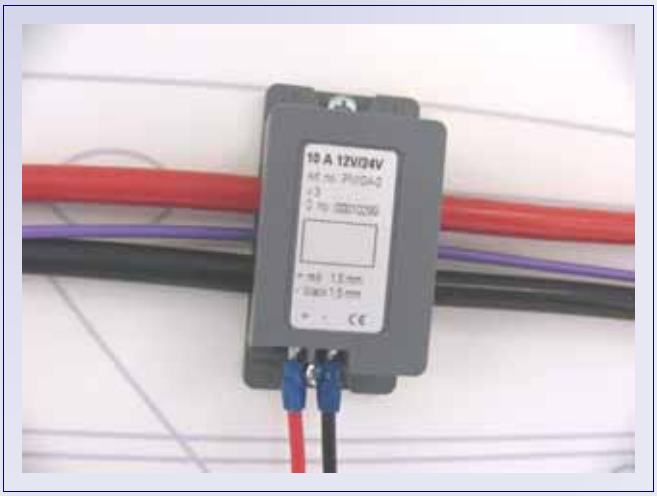
## 2. Power Management

The nodes can be programmed to different priorities. With this function the nodes automatically shut down at a certain voltage:

- Priority 1: The node is always on, for navigation light and bilge pumps.
- Priority 2: Shuts down at a voltage lower than 11v
- Priority 3: Shuts down at a voltage lower than 11.7v

## 3. Functionality

- Direct function on switches: Used for horns.
- Toggle function: Used for pumps, lamps etc.
- Dimmer: All nodes are equipped with dimmer function and are used for interior lamps.



## 4. Switching

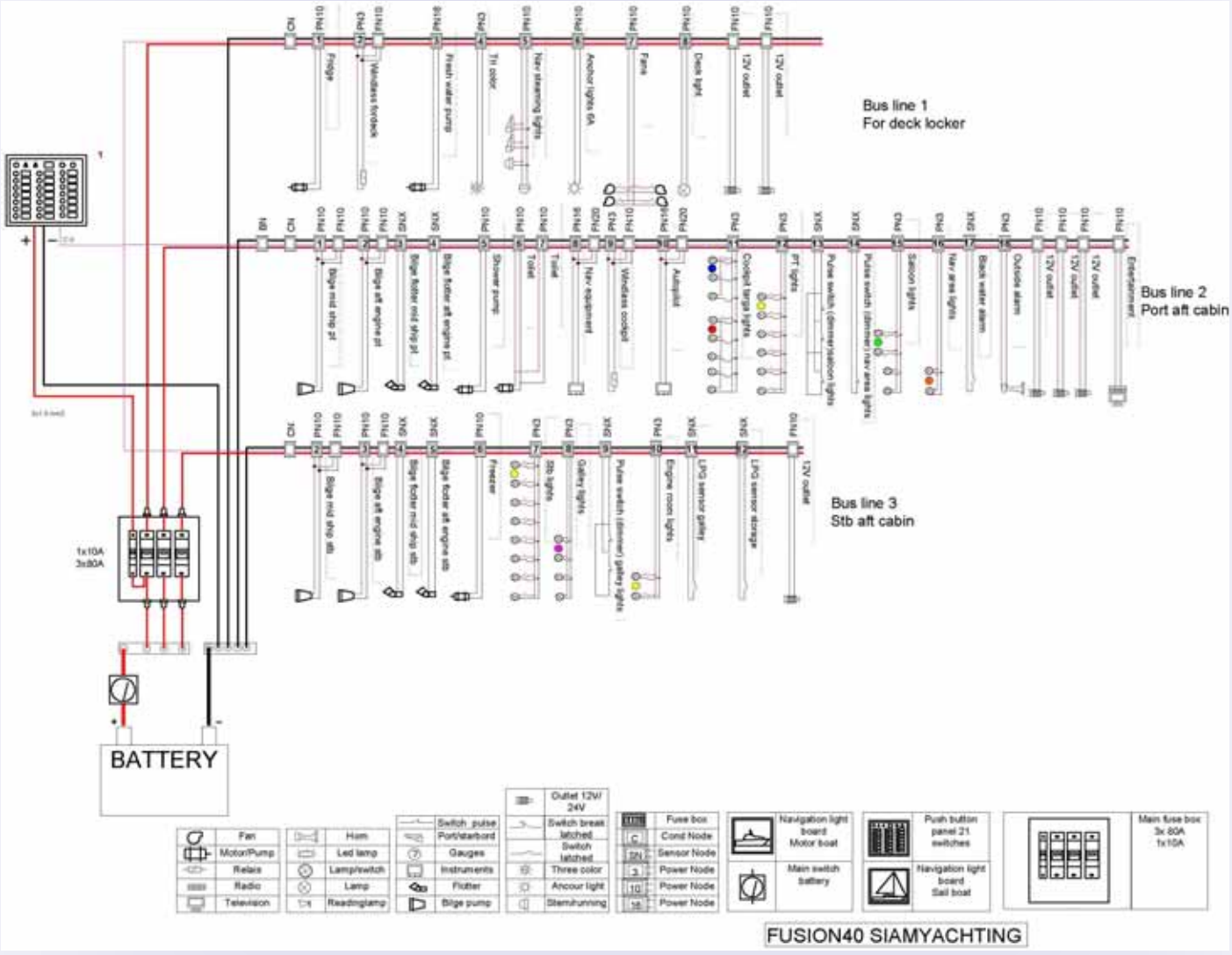
- Multiple switches to one load: A load can be activated from several places on the boat.
- Multiple loads to one switch: Reduces the amount of switches needed on the switch panel.
- Multiple loads to one switch in combination with one switch per load: Can be used at the entrance of the boat to turn on lights. These lights can later be turned on or off separately

## 5. Other

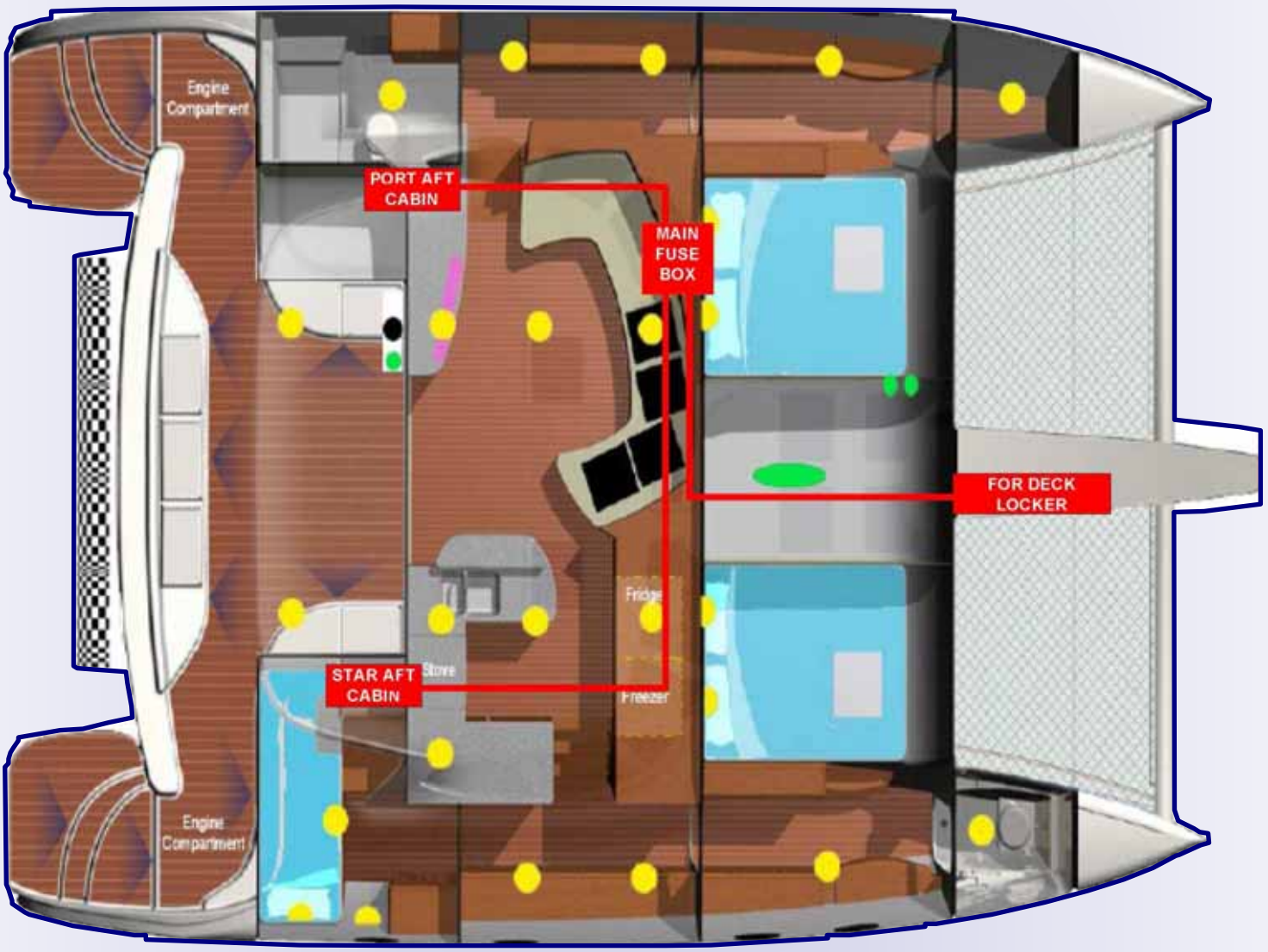
- In standby on: A load is on although the system is turned of, used for refrigerator and bilge pumps etc.
- Time delay when switching of a function: Used for ventilation in a shower/ motor compartment and for pump for the shower. Can also be used for the bilge pump to let it pump out additional water.
- Automatic shut down of load after a set time: Used when leaving the boat. Turn on the lights when leaving the boat. The lights will then after set time turn out automatically.

# Fusion Catamarans and Capi2

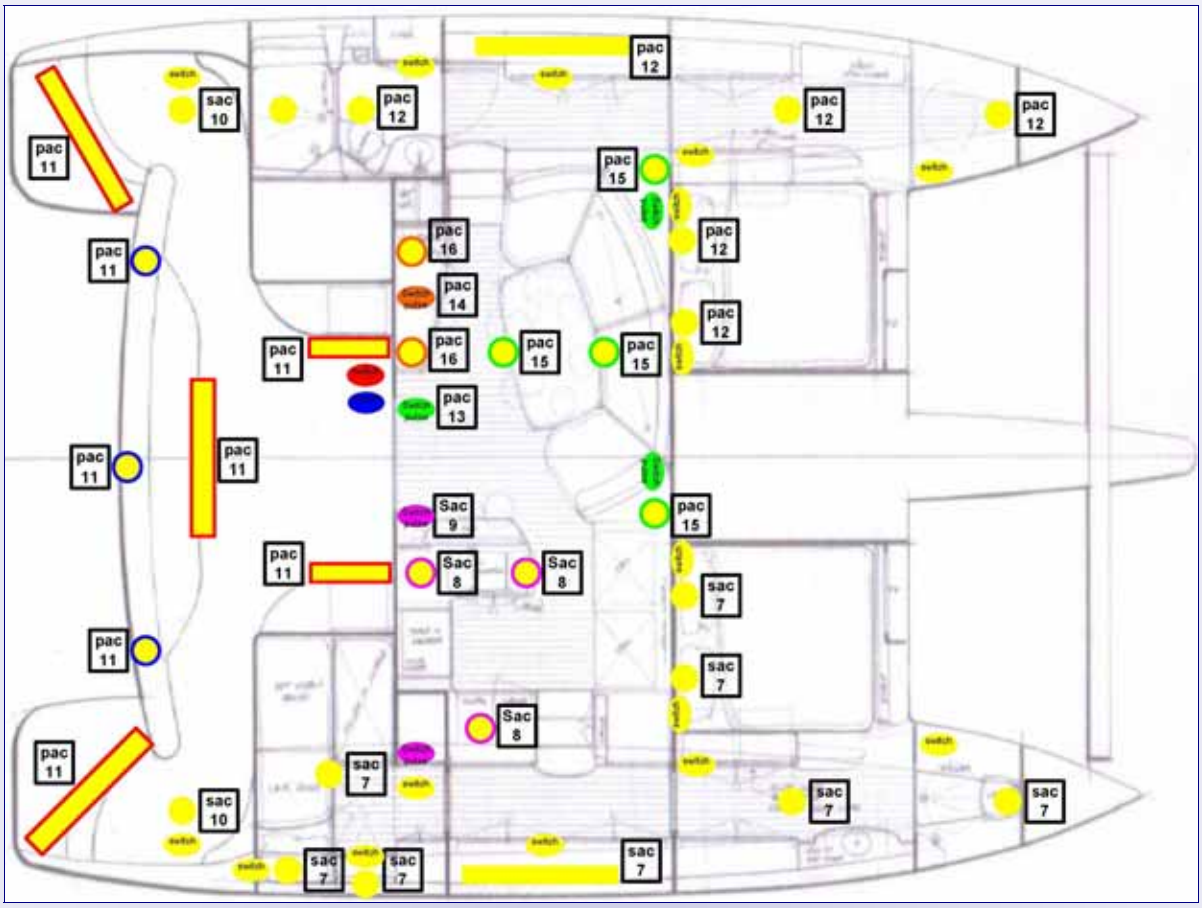
In cooperation with Fusion Catamarans we designed a standard bus system package. It is suitable for all Fusion catamarans and easily to order, install and maintain. These are drawings we made for the first Fusion 40, built by Yachting Si am. You can download them at: www.capi2.com and www.fusioncats.com.au



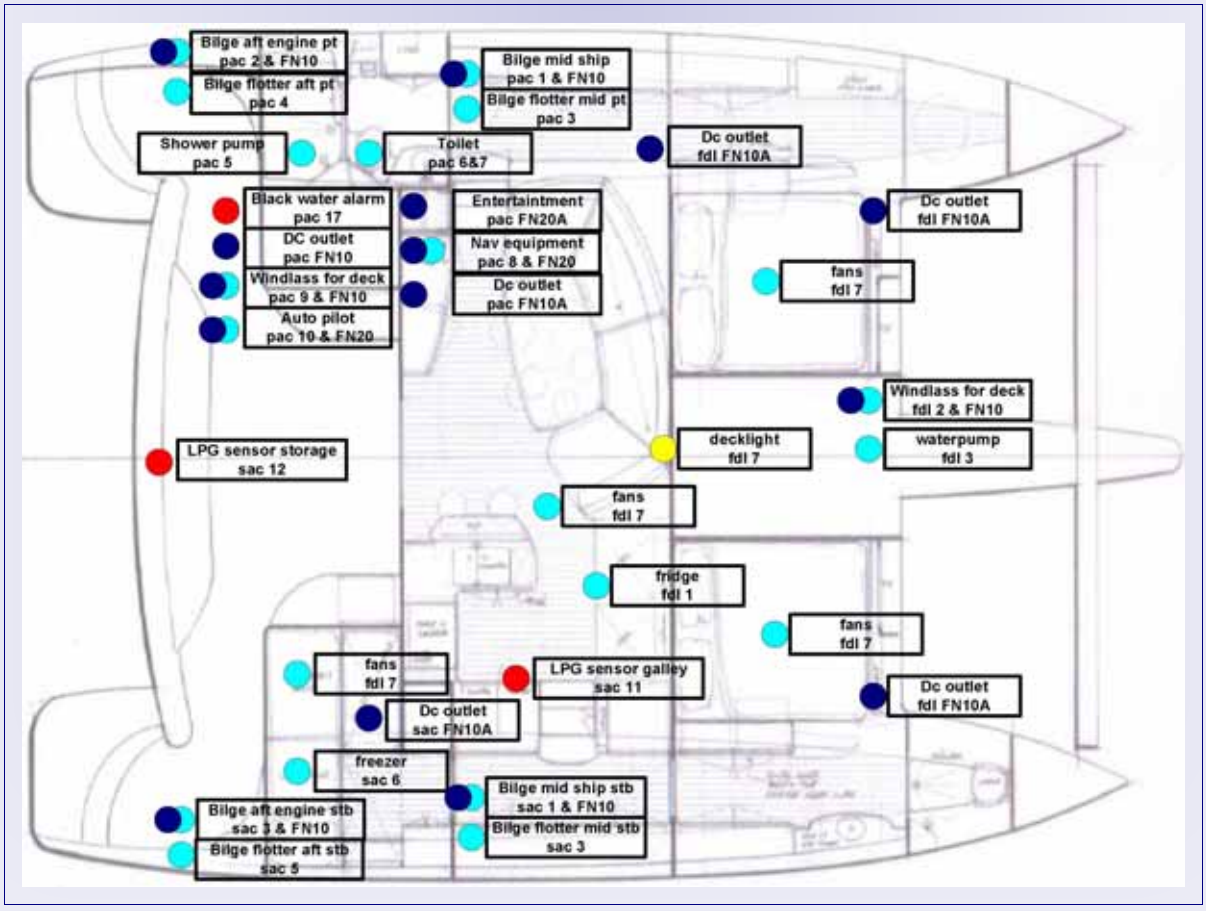

*1. Capi2 schematic in Fusion 40*



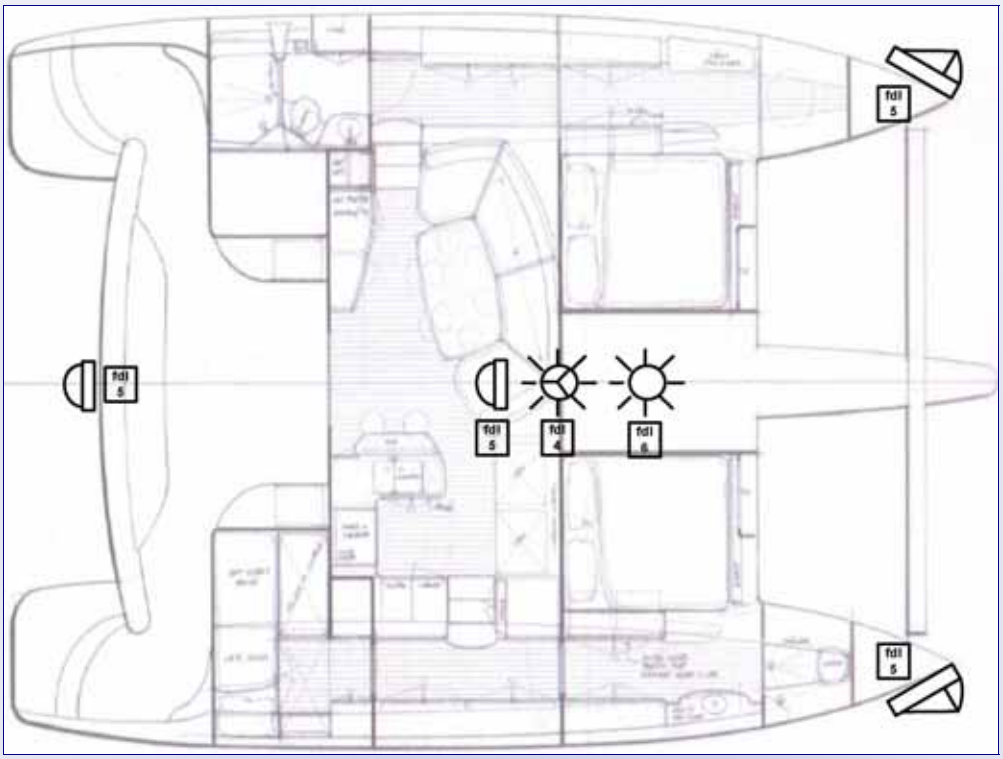

## *2. Define the best routing*




## 3. Lighting plan




## 4. Other 12V or 24V loads



## 5. Navigation lights

| | | |
|---|---|---|
| **Must have** | | |
| | **Panels** | |
| 1 | Push button board 21Keys.12V/24V | PBP21K12V-0 |
| | | |
| | **Power modules** | |
| 5 | Power node 16A | PN16A-0 |
| 11 | Power node 10A | PN10A-0 |
| 11 | Power node 3A | PN3A-0 |
| | | |
| | **Back-up modules** | |
| 3 | Fuse node 20A | FN20A-0 |
| 12 | Fuse node 10A | FN10A-0 |
| | | |
| | **Extra** | |
| 56 | Node base | NB-0 |
| | | |
| | **Miscellaneous modules** | |
| 10 | Sensor node 12V/24V | SNX12V-0 |
| 1 | Branch node | BN-0 |
| 3 | Condensator node | CN-0 |
| 3 | Dielectric gel | DC4-0 |
| | | |
| | | |
| | | |
| | | |
| | | |
| **One time invest first boat (for boat builder)** | | |
| 1 | Monitor RS232 | MT232-0 |
| 1 | Cable cutter | CC16-0 |
| 1 | CD symbols | CDS-0 |

## 6. Order list

# Advantages for Fusion Catamarans

## *Savings*

- Pre-programmed;
- Capi2 is faster and easier to install;
- Reduce number of cables and weight with more than 60%;
- No need to install cable conduits and gutters;
- There is less space taken up with the whole install ation;

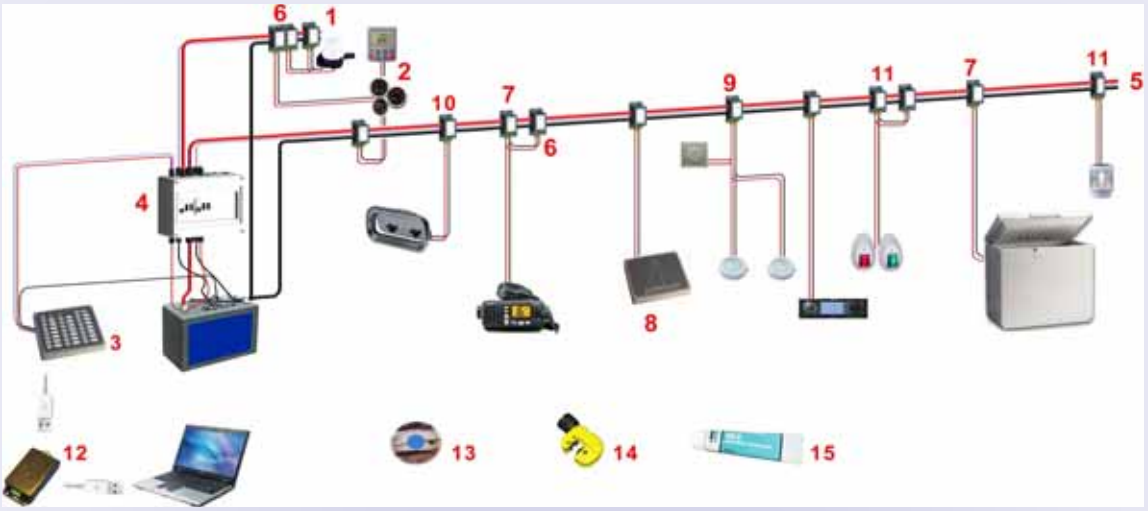
## *Safety*

- The whole electrical system has automatic fuses;
- There is a warning for broken lights and cables;
- Low battery warning light;
- The appliances are switched off in order of importance with low battery;
- Backup systems for instruments, bilge pumps and auto pilot;
- Priority switching;

## *Extra*

- All indicator lights are dimmable for night operation;
- The nodes are dimmable for interior and exterior lighting;
- Capi2 is easy to maintain and upgrade;

# Overview of Capi2 components




**1 Bilge pump** is connected to a SNX node (senor water level), to a 16-amp Power Node (electronic switch) and to a Fuse Node 20 amps. The Fuse Node is a backup system connected directly to the battery. You can program the bilge pump to run automatically or manually.

**2 Instruments** are connected to a 10-amp Fuse Node (manual switch) and to a 10-amp Power Node.

**3 Push-button panel** has 21 buttons, build in powermanagment and adjustable red background light. The symbols can be interchanged to suit your needs. LED indicators for short circuits and broken wires/lamps (navigation lamps). Audio and visual warnings for overload and low battery voltage with automatic switch-off of loads. Connects to the bus cable with just three wires. Also available with your own layout.

**4 Main fuse box includes**: • 50 or 80-amp circuit breaker/s for the bus cable(s) • 10 amp circuit breaker for the switch panel

**5 Bus cable** consists of three wires and can handle up to a 80-amp load. Two 16-mm2 (AWG 6) wires (red and black) for the power and one 1.5-mm2 (AWG 16) violet wire for the control. A boat can have more than one bus cable to provide the amount of power necessary. For 160-amp power consumption, you need two bus cables.

**6 Fuse Node** is a manual controllable switch that opens on a command and sends the power through to the appliances. The node is a second backup system (necessary for CE approval). The node also includes an thermal fuse and is easy to attach to the bus cable. Available in 10, 20-ampere versions.

**7 Power Node** is an electronic switch that opens on a pushbutton command and sends the power through to the appliances. It includes an electronic resettable fuse which can be reset at the push-button board. Available in 3, 10 and 16-ampere versions.

**8 Navigation light board** indicates which navigation lamps are activated and indicates cable failures or broken bulbs. It comes in two versions: for sail and motorboats. Connects to the bus with just two wires. Also available with your own print.

**9** Al 3, 10 and 16-amp Power Nodes are **dimmable**.

**10 SNX node** is a sensor node and can be used as open/close sensors (for hatches or portholes) and on/off (for lamp switches)

**11** Nodes are all unique and therfore perfect to install seperately from each other. You can program several nodes under one position at the Push-button panel.

**12** With the **Monitor RS232** you program the Capi2 software. You can install the monitor in the ship or use one monitor for multiple software installations on several ships.

**13 CD Symbols** to create your personal push-button panel layout **14 Cable cutter** is the perfect tool needed for attachment of the nodes to the bus cable harness. **15 Dielectric gel** to protect the connectors from moisture.

FUSION
CATAMARANS

*Recommends*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