

PANELTRONICS[®]

INCORPORATED

**Power Distribution Panels
Circuit Breaker Panels
Waterproof Switch Panels
Instrument Panels
Box-Build Assemblies
Enclosure Assemblies
Mounting Frames
Parts & Components**



About Paneltronics

Family owned and operated since 1979, Paneltronics is an electrical products manufacturing company based in Hialeah Gardens near Miami, FL, USA.

Paneltronics is an industry leader in the design, engineering and manufacturing of high quality power distribution systems, electrical panels, box-build assemblies, instrument panels, enclosures and electrical components. Paneltronics' electrical panels, assemblies, and systems are specified on a wide variety of vessels, vehicles and equipment.



With more than 225 years of combined in-house electrical expertise and long standing relationships with premier OEMs, Paneltronics offers a broad line of superior engineered products and solutions to the marine, transportation and industrial markets. With a commitment to quality products, service and integrity, Paneltronics is a supplier of choice for OEMs worldwide.

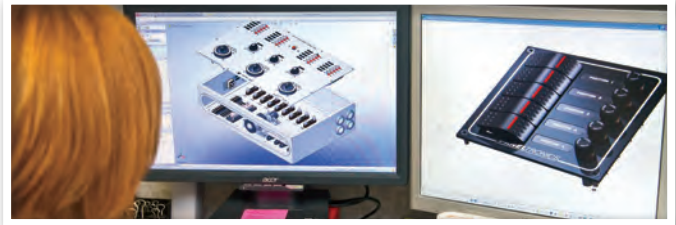
Mission Statement & Company Focus

Mission Statement: Paneltronics is committed to providing high quality, cost effective products and superior service to our customers in an environment of cooperation and integrity.

Company Focus: Paneltronics is focused on continuous improvement through advancing streamlined manufacturing processes, engineering and technology. We also concentrate on providing quality and added value, which includes increased safety, reliability, and ease of installation. It is our goal to fulfill and exceed customer needs.

Capabilities

Paneltronics understands the needs of growing manufacturers in a dynamic economy and responds to these needs. We manufacture in our own U.S. facilities, which allows for scheduling flexibility, control of lead times, manufacturing processes, inventory and product quality and a stronger ability to meet our customers' needs.



Engineering Capabilities: Paneltronics' engineering department is a highly trained team of engineers and designers. Our team focuses on both electrical and mechanical design. Paneltronics' engineering and design capabilities include, but are not limited to:

- Product Research, Development & Design
- Electrical & Mechanical Design & Engineering
- 3D-CAD (Solid Works & AutoCAD)
- Compliance/Standards Research & Implementation



Manufacturing Capabilities: Paneltronics provides high quality products in a timely fashion. The key is our streamlined manufacturing processes which include a combination of EDI, Kanban Inventory, JIT (Just-in-Time) inventory, Build-to-Print products, High & Low volume custom and aftermarket production, Prototypes, etc. Paneltronics' manufacturing capabilities include, but are not limited to:

- CNC Engraving
- CNC Sheet Metal Punching
- CNC Routing, Cutting & Milling
- Screen Printing
- Painting
- Plastic Injection Molding & Tooling
- Welding & Metal Fabrication
- Electrical & Mechanical Assembly
- Wire Harness Assembly



Customer Service & Support Capabilities: Paneltronics' knowledgeable staff is trained to assist our customers in a friendly, accessible and timely fashion. Our in-house professionals have a deep understanding of the product lines and their application. In addition, Paneltronics works with key regional representatives to ensure that you are receiving the best service and support by qualified individuals.

We manufacture products for:

Agricultural Equipment

[Boats](#)

Broadcast Vehicles

Buses

Communication Vehicles

Construction Equipment

Display & Merchandising Equipment

Emergency Vehicles

Fire Trucks

Generators

Golf & Turf Equipment

Hazmat Vehicles

Material Handlers

Mobile Command Post Vehicles

Motor Coaches

Off-Highway Vehicles

Portable Compressors

Specialty Vehicles

Utility Vehicles

Yachts

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Premier & Deluxe Line DC Distribution Panels

Corrosion Resistant Polyurethane Finish with several colors and finishes to choose from

Color Coded Amber LEDs Facilitate Quick Monitoring

Durable Epoxy Silk-Screened Graphics

1/8" Durable Aluminum Construction

Countersunk Screw Mounting Holes

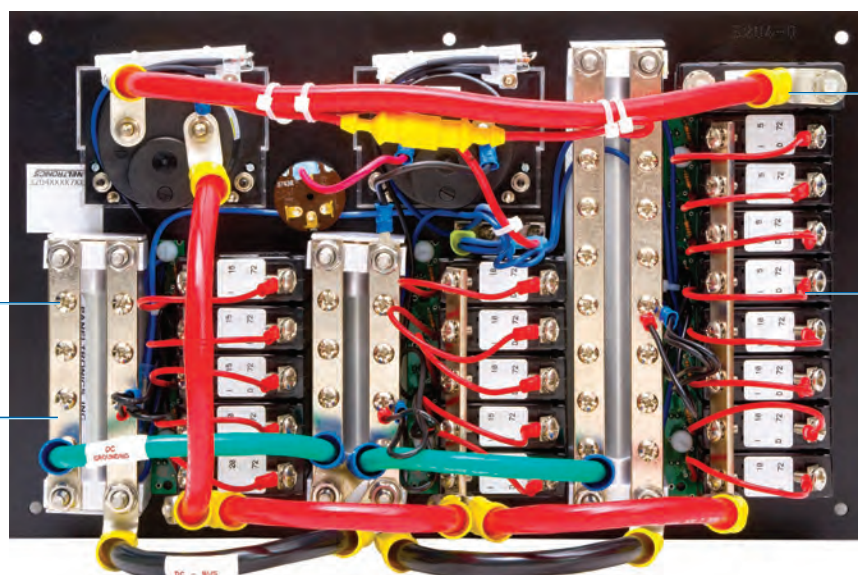


Edge Illuminated Easy-to-Read Analog Meters (Digital Meters Optional)

Rotary Switch Permits Monitoring of Multiple Battery Banks

Select From Over 3000 Interchangeable Rear Illuminated Function Labels

Circuit Breaker Amperages are loaded to meet your custom requirements



Battery Positive Cable Easily Connects to 1/4-20 Circuit Breaker Stud

Completely Pre-Wired Ready for Line and Load Connectors

Conveniently Mounted Bus Bar Connectors Minimize Installation Time

1/2" x 1/8" Tin Plated Copper Buses



Deluxe Line

- A full line of High Quality Power Distribution Panels that can be customized to meet any requirement.

Premier Line

- A full featured line of High Quality Power Distribution Panels with all the custom and standard features of our Deluxe Line plus a Total Illumination Package.

Premier and Deluxe Line Features:

- Custom loaded to your specifications
- Most panels ship within 5 working days. Select panels available within 24 hours.
- 1/8" Corrosion resistant aluminum construction
- Two part polyurethane finish
- High accuracy analog meters are standard. Optional digital meters available



Selection:

- Largest selection of Circuit Breaker and Power Distribution Panels
- Over 250 Modular Panel Designs for Maximum installation flexibility (see page 52)
- Interchangeable, Polycarbonate Function Labels (Over 3000 available)
- Panels are Custom Configured to your specific requirements.
- Optional colors and finishes are available to match every application.
- Free Factory Technical Support



Flexibility:

- Color coded LED indicators on Premier Line panels
- Backlit labels and meters on Premier Line panels
- High accuracy analog meters, Optional Digital Meters available
- Hydraulic/ Magnetic, Trip Free UL Listed and Recognized and CSA Certified Circuit Breakers
- VDE Approved and CE Compliant Circuit Breakers available

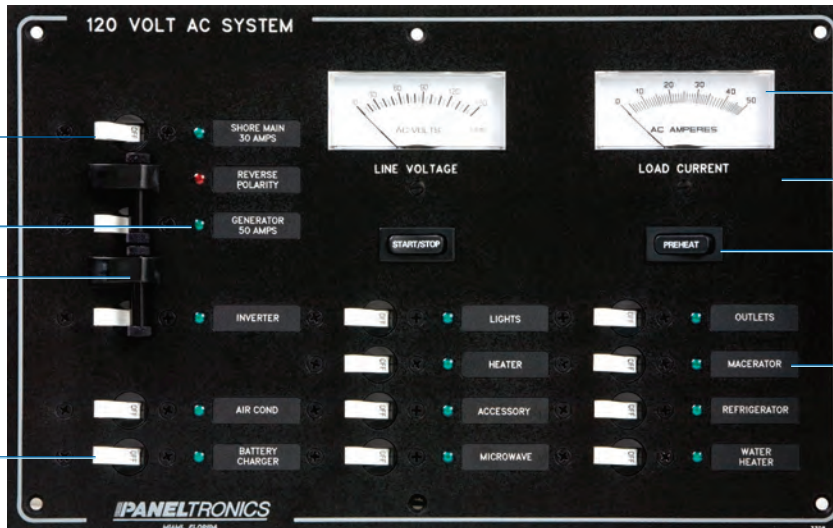


Smart AC Shore Main Circuit Breaker Trips Automatically upon Sensing Reverse Polarity

Color Coded Green LEDs Facilitate Quick Monitoring

Single Source Selector Sliding Gate

Hydraulic/Magnetic, Trip Free, UL Listed or Recognized, CSA Certified Marine Circuit Breakers. CE Approved Circuit Breaker are also available.



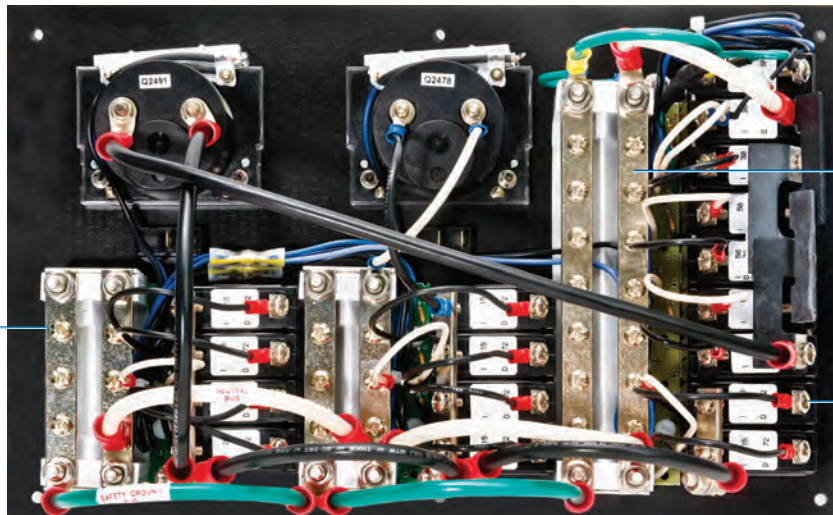
Edge Illuminated Easy-to-Read Analog Meters (Digital Meters Optional)

1/8" Durable Aluminum Construction

Convenient Remote Generator Controls for Preheat and Start/Stop

Super Bright LED Backlighting Systems Draw Less Than 1 Amp

Conveniently Mounted Bus Bar Connectors Minimize Installation Time



1/2" x 1/8" Tin Plated Copper Buses



Completely Pre-Wired Ready for Line and Load Connectors

Installation:

- Completely pre-wired for ease of installation
- Panel mounted Tin Plated Bus Bars
- Panel mounted Bus Connectors
- Detailed Wiring Diagrams for simple and safe installation
- Optional Hinges for further ease of installation
- Product of choice for Premier Boat Builders worldwide

DC Panel Features:

- Available in 12 VDC, 24 VDC or 32 VDC
- Tin plated, panel mounted DC Positive, DC Negative, and Grounding Bus Bars
- Large Frame DC Mains rated at 5,000 AIC
- Selector Switch permits monitoring of up to 4 Battery Banks
- High performance DC Ammeter Shunts

AC Panel Features:

- Available in 120 VAC, 240 VAC-60Hz or 220 VAC-50Hz
- AC Shore Main Circuit Breakers include Reverse Polarity Trip Coils that trip automatically upon sensing Reverse Polarity
- Red Warning LED indicates potentially dangerous Reverse Polarity condition
- Tin plated, panel mounted AC Hot, AC Neutral, and Safety Ground Bus Bars
- AC power single source selector sliding gate
- Convenient remote generator controls

Color Options:

- Textured black finish is standard on all panels.
- Custom colors and custom logos available.
- Premier and Deluxe models are also available in the following color options:



**RAPID24HRS
RESPONSE**

1000 & 2000 Series Distribution Panels



1201
5.5" W x 4.125" H x 2.25" D
DC Voltmeter Panel



1202
5.5" W x 4.125" H x 3.5" D
DC High AMP Breaker Panel
50A Standard (60, 80, and 100A available)



1201
5.5" W x 8.25" H x 3" D
DC Battery Selector with
50 Amp Main



1202 *Shown with optional Digital Meters*
5.5" W x 8.25" H x 2.25" D
DC Volt and Amp Meter Panel



2203
5.5" W x 8.25" H x 3.5" D
DC 7 Position Circuit Breaker Panel
with Main



2204
5.5" W x 8.25" H x 3.5" D
DC 8 Position Circuit Breaker Panel



2205
5.5" W x 8.25" H x 3.5" D
DC Waterproof 8 Position
Circuit Breaker Panel



2206 *Shown with optional Digital Meters*
11" W x 8.25" H x 3.5" D
DC 12 Position Panel with Main and Voltmeter



2301
5.5" W x 8.25" H x 2.625" D
AC Ship/Shore Source
Selector Panel - 120 VAC 60 Hz



2303
5.5" W x 8.25" H x 5.5" D
AC Dual Shore/Generator
Selector Panel - 120 VAC 60 Hz



2302
5.5" W x 8.25" H x 4.625" D
AC Ship/Shore Source Selector
Panel - 240 VAC 60 Hz



2304
5.5" W x 8.25" H x 2.25" D
AC Volt and Amp Meter Panel
(Available in 120 or 240 VAC)





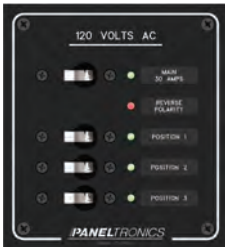
2305
5.5" W x 8.25" H x 3.5" D
AC 6 Position Panel with Main



2308
5.5" W x 8.25" H x 3.75" D
AC High AMP Triple Pole Circuit Breaker Panel



2311
5.5" W x 8.25" H x 6.75" D
AC 3 Position Source Selector Switch



2313
5.5" W x 6" H x 3.5" D
AC 3 Position Panel with Main



2306
5.5" W x 8.25" H x 3.5" D
AC 8 Position Circuit Breaker Panel



2309
5.5" W x 8.25" H x 3.5" D
AC Source Selection Panel
Shore Main/Generator Main



2312
5.5" W x 8.25" H x 7.875" D
AC 4 Position Source Selector Switch



2314
5.5" W x 8.25" H x 3.5" D
AC Source Selector Shore/Generator/Inverter Main



2307
5.5" W x 8.25" H x 3.75" D
AC High AMP Double Pole Circuit Breaker Panel



2310
5.5" W x 8.25" H x 3.5" D
AC Source Selection Panel
Shore Main/Parallel Bus A+B



Symbols indicate special features for panels on these pages.

1000 & 2000 Series
Premier and Deluxe Distribution Panels

- DC Panels Available for:
- AC Panels Available for:
- 12 VDC
 - 24 VDC
 - 32 VDC
 - 120 VAC - 60 Hz
 - 240 VAC - 60 Hz
 - 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20

3000 Series Distribution Panels



3201

13.75" W x 3.25" H x 3.5" D

DC 6 Position Circuit Breaker Panel



3202

13.75" W x 4.75" H x 3.5" D

DC 12 Position Circuit Breaker Panel



3203

13.75" W x 7" H x 3.5" D

DC 12 Position with Main and Meters

Shown with optional Digital Meters



3204

13.75" W x 8.5" H x 3.5" D

DC 18 Position with Main and Meters



3205

13.75" W x 10" H x 3.5" D

DC 24 Position with Main and Meters

Shown with optional Digital Meters



3206

13.75" W x 4.75" H x 3.5" D

DC Waterproof 12 Position Circuit Breaker Panel



3301

13.75" W x 3.25" H x 3.5" D

AC 6 Position Circuit Breaker Panel



3302

13.75" W x 4.75" H x 3.5" D

AC 12 Position Circuit Breaker Panel



3303

13.75" W x 3.25" H x 3.5" D

AC 3 Position Double Pole Circuit Breaker Panel



3304

13.75" W x 4.75" H x 3.5" D

AC 6 Position Double Pole Circuit Breaker Panel





3305

13.75" W x 6" H x 3.5" D
AC 7 Position with Main and Meters



3306

13.75" W x 7.5" H x 3.5" D
AC 9 Position with Shore/Generator Mains and Meters



3307

13.75" W x 10" H x 3.5" D
AC 12 Position with Dual Shore/Generator Mains and Meters

Shown with optional Digital Meters



3308

13.75" W x 8.625" H x 3.5" D
AC 10 Position with Shore/Generator/Inverter Mains and Meters



Shown with optional Digital Meters

3309

13.75" W x 10.5" H x 3.5" D
AC 12 Position with Dual Shore/Generator/Inverter Mains and Meters



Shown with optional Digital Meters

3310

13.75" W x 10" H x 3.5" D
AC 12 Position with Shore/Generator Mains and Meters
120/240 VAC

3000 Series Premier and Deluxe Distribution Panels

3200 Series

DC Panels Available for:

- 12 VDC
- 24 VDC
- 32 VDC

3300 Series

AC Panels Available for:

- 120 VAC - 60 Hz
- 240 VAC - 60 Hz
- 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20



Symbols indicate special features for panels on these pages.

4000 Series Distribution Panels



4202

17.75" W x 3.25" H x 3.5" D
DC 8 Position Circuit Breaker Panel



4203

17.75" W x 4.75" H x 3.5" D
DC 16 Position Circuit Breaker Panel



4204

17.75" W x 7.75" H x 3.5" D
DC 23 Position with Main and Meters



4205

17.75" W x 9.25" H x 3.5" D
DC 31 Position with Main and Meters



4208

17.75" W x 3.25" H x 3.5" D
DC 4 Position Bilge Pump Panel
Each Position includes Auto/Manual Switch and Push-to-Reset 15 Amp Circuit Breaker



4206

17.75" W x 7.75" H x 3.5" D
DC 32 Position Circuit Breaker Panel



4207

17.75" W x 11.5" H x 3.5" D
DC 32 Position with Dual Mains, 2 High Amp Breakers and Meters



4301

17.75" W x 3.25" H x 3.5" D
AC 4 Position Circuit Breaker Panel



4302

17.75" W x 3.25" H x 3.5" D
AC 8 Position Circuit Breaker Panel



4303

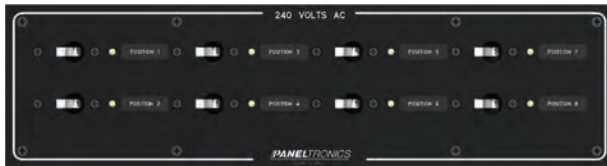
17.75" W x 4.75" H x 3.5" D
AC 16 Position Circuit Breaker Panel





4304

17.75" W x 3.25" H x 3.5" D
AC 4 Position Double Pole Circuit Breaker Panel



4305

17.75" W x 4.75" H x 3.5" D
AC 8 Position Double Pole Circuit Breaker Panel



4306

17.75" W x 5.25" H x 3.5" D
AC 8 Position with Shore Main and Meters



4307

17.75" W x 6" H x 3.5" D
AC 8 Position with Shore/Generator Mains and Meters



4308

17.75" W x 8.75" H x 3.5" D
AC 18 Position with Shore/Generator Mains and Meters

Shown with optional Digital Meters



4309

17.75" W x 9.25" H x 3.5" D
AC 16 Position with Dual Shore/Generator Mains and Meters

Shown with optional Digital Meters



4310

17.75" W x 7.75" H x 3.5" D
AC 32 Position Circuit Breaker Panel



*Custom Loaded to
your Specifications*

4000 Series Premier and Deluxe Distribution Panels

4200 Series

DC Panels Available for:

- 12 VDC
- 24 VDC
- 32 VDC

4300 Series

AC Panels Available for:

- 120 VAC - 60 Hz
- 240 VAC - 60 Hz
- 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20



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4000 Series Distribution Panels



4311
17.75" W x 7.75" H x 3.5" D
AC 16 Position Double Pole Circuit Breaker Panel



4314
17.75" W x 8.25" H x 3.75" D
AC High Amp Mains - 4 Position Source Selector - 120/240 VAC



4312
17.75" W x 8.25" H x 3.75" D
AC High Amp Mains - 2 Position Source Selector - 120/240 VAC



4315
17.75" W x 8.25" H x 3.75" D
AC High Amp Mains - 5 Position Source Selector - 120/240 VAC



4313
17.75" W x 8.25" H x 3.75" D
AC High Amp Mains - 3 Position Source Selector - 120/240 VAC



4316
17.75" W x 4.75" H x 2.25" D
AC Meter Panel - Volts, Amps and Frequency - 120/240 VAC
Shown with optional Digital Meters



4317
17.75" W x 6.25" H x 6.75" D
AC Meter Panel with 3 Position Source Selector - 120/240 VAC





4318

17.75" W x 6.25" H x 7.875" D

AC Meter Panel with 4 Position Source Selector - 120/240 VAC



4320

17.75" W x 9.75" H x 3.5" D

AC Dual Shore/Generator Mains and Parallel Switch with Meters



4321

17.75" W x 9.75" H x 3.5" D

AC Dual Shore/Generator/Inverter Mains and Parallel Switch with Meters

Shown with optional Digital Meters



4322

17.75" W x 4.75" H x 2.25" D

AC Meter Panel - 2 Volt and 2 Amp Meters - 120/240 VAC

Shown with optional Digital Meters



4336

17.75" W x 9.75" H x 3.5" D

6 Position Source Selector with Meters

Shown with optional Digital Meters



4338

17.75" W x 8.75" H x 3.5" D

AC 18 Position with 3 Triple Pole Mains and Meters

4000 Series Premier and Deluxe Distribution Panels

4300 Series

AC Panels Available for:

- 120 VAC - 60 Hz
- 240 VAC - 60 Hz
- 220 VAC - 50 Hz



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Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
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4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20

5000 Series Distribution Panels



5201
11" W x 6.5" H x 3.5" D
DC 12 Position Circuit Breaker Panel



5301
11" W x 6.5" H x 3.5" D
AC 12 Position Circuit Breaker Panel



5202
11" W x 11" H x 3.5" D
DC 24 Position Circuit Breaker Panel



5302
11" W x 11" H x 3.5" D
AC 24 Position Circuit Breaker Panel



5203
11" W x 9.75" H x 3.5" D
DC 11 Position with Main and Meters

Shown with optional Digital Meters



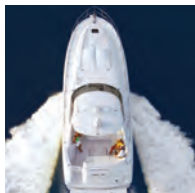
5303
11" W x 6.5" H x 3.5" D
AC 6 Position Double Pole Circuit Breaker Panel



5204
11" W x 4.5" H x 3.5" D
DC 6 Position Circuit Breaker Panel



5304
11" W x 9.75" H x 3.5" D
AC 2 Position Source Selector with Meters



Symbols indicate special features for panels on these pages.



5305
11" W x 9.75" H x 3.5" D
AC Dual Shore/Generator Mains and Parallel Switch with Meters



5309 *Shown with optional Digital Meters*
11" W x 9.75" H x 3.5" D
AC 4 Position Source Selector with Meters (240 VAC)



5306 *Shown with optional Digital Meters*
11" W x 9.75" H x 3.5" D
AC Dual Shore/Generator/Inverter Mains and Parallel Switch with Meters



5310 *Shown with optional Digital Meters*
11" W x 6.5" H x 3.5" D
AC 7 Position with Main and Voltmeter



5311
11" W x 4.5" H x 3.5" D
AC Volt and Amp Meter Panel
(Available in 120 or 240 VAC)



5307
11" W x 9.75" H x 3.5" D
AC 3 Position Source Selector with Meters (240 VAC)



5308
11" W x 4.5" H x 3.5" D
AC 6 Position Circuit Breaker Panel

5000 Series Premier and Deluxe Distribution Panels

5200 Series

DC Panels Available for:

- 12 VDC
- 24 VDC
- 32 VDC

5300 Series

AC Panels Available for:

- 120 VAC - 60 Hz
- 240 VAC - 60 Hz
- 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20

3400, 4400 & 5400 Series AC/DC Distribution Panels



3401

13.75" W x 12.125" H x 3.5" D

AC/DC 12 DC Position with Main and 7 AC Position with Shore Main and Meters



3402

13.75" W x 13.625" H x 3.5" D

AC/DC 18 DC Position with Main and 7 AC Position with Shore Main and Meters

Shown with optional Digital Meters



3403

13.75" W x 16.625" H x 3.5" D

AC/DC 24 DC Position with Main and 9 AC Position with Shore/Generator Mains

Shown with optional Digital Meters



3404

13.75" W x 19.125" H x 3.5" D

AC/DC 24 DC Position with Main and 12 AC Position with Dual Shore/Generator Mains

Shown with optional Digital Meters



Symbols indicate special features for panels on these pages.



4401

17.75" W x 12.25" H x 3.5" D
AC/DC 23 DC Position with Main and 8 AC Position with
Shore Main and Meters



Shown with optional Digital Meters

4402

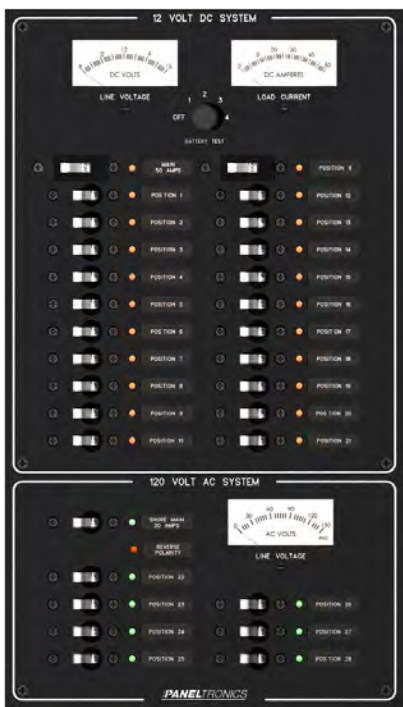
17.75" W x 15.25" H x 3.5" D
AC/DC 31 DC Position with Main and 12 AC Position with
Shore/Generator Mains and Meters



Shown with optional Digital Meters

4403

17.75" W x 17.75" H x 3.5" D
AC/DC 31 DC Position with Main and 16 AC Position with Dual Shore/
Generator Mains and Meters



5401

11" W x 19.25" H x 3.5" D
AC/DC 21 DC Position with Main and 7 AC
Position with Main and Meters

3400, 4400 & 5400 Series
Premier and Deluxe Distribution Panels

DC Section Available for: AC Section Available for:

- 12 VDC
- 24 VDC
- 32 VDC
- 120 VAC - 60 Hz
- 240 VAC - 60 Hz
- 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20



9982201
5.5" W x 8.25" H x 3" D
DC Battery Selector Panel with Large Frame
50A Main Breaker. Battery Switch has a Marine
UL Listing of 250 Amps continuous up to 50 VDC



9982202
5.5" W x 8.25" H x 2.25" D
DC Meter Panel. 8-16 VDC Expanded Scale
Voltmeter and 0-50 DC Ammeter



9972204
5.5" W x 8.25" H x 3.5" D
DC 8 Position Circuit Breaker Panel
with LED Indicators - 5 Breakers Installed
9982204
Without LED Indicators



9972207
5.5" W x 4.125" H x 3.5" D
DC 3 Position Circuit Breaker Panel
with LED Indicators
9982207
Without LED Indicators



9972208
5.5" W x 8.25" H x 3.5" D
DC 8 Position Circuit Breaker Panel
with Indicator Lights (All hardware is
included except breakers for
customizing amperage ratings)
9982208
Without LED Indicators



9972222
5.5" W x 8.25" H x 3.5" D
DC 5 Position Circuit Breaker Panel
with Voltmeter



9972220
5.5" W x 13.5" H x 3.5" D
DC 12 Position Circuit Breaker Panel
with Meters - 7 Breakers Installed



9982301
5.5" W x 8.25" H x 2.625" D
Generator/Shore Single Source Selector Panel
120 VAC 60 Hz 50A Max
220 VAC 50 Hz 50A Max



9982304
5.5" W x 8.25" H x 2.25" D
AC Meter Panel. 0-150 AC Voltmeter
and 0-50 AC Ammeter





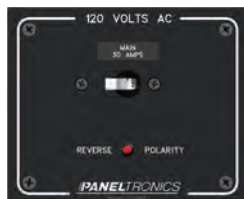
9972305
5.5" W x 8.25" H x 3.5" D
AC 6 Position Circuit Breaker Panel with 30A Main and LED Indicators - 5 Breakers Installed
9982305
Without LED Indicators



9972313
5.5" W x 6" H x 3.5" D
AC 3 Position Circuit Breaker Panel with 30A Main and LED Indicators
9982313
Without LED Indicators



9972320
5.5" W x 13.5" H x 3.5" D
AC 10 Position Circuit Breaker Panel with 30A Main and Meters - 6 Breakers Installed



9982316
5.5" W x 4.5" H x 3.5" D
AC Main - Double Pole - 30 Amp Circuit Breaker with Reverse Polarity Indicator



9972321
5.5" W x 6.5" H x 3.5" D
AC 240VAC Ship/Shore Selector



9972322
5.5" W x 8.25" H x 3.5" D
AC 3 Position Circuit Breaker Panel with 30A Double Pole Main Breaker (No reverse polarity trip coil)



9973210
13.75" W x 8.25" H x 3.5" D
DC 20 Position Circuit Breaker Panel with Meters
14 Breakers Installed



9973410
13.75" W x 8.25" H x 3.5" D
AC/DC 19 Position Circuit Breaker Panel with Meters
13 Breakers Installed



Panel Insulation Cover: P/N 111-084

A simple solution for protecting exposed wiring behind the electrical panel. Standard Size: 5.250"W x 8.188"H x 5.125"D Fits most 2000 Series Paneltronics Panels as well as many original equipment panels. Material: 0.125" ABS plastic easily drilled for mounting and wiring.

Standard Line Panels

This wide selection of pre-engineered panels is factory stocked for immediate delivery. Models include circuit breaker panels, source selectors and instrument panels. Circuit breaker panels are loaded with a breaker assortment to meet most applications. Additional circuit breakers may be purchased for a custom solution to your electrical system.

Made of corrosion resistant aluminum, panels are coated with a black polyurethane finish. Each panel includes mounting hardware and a set of interchangeable function labels.

Point of Purchase Packaging is available, ask a Paneltronics representative for details.

- Factory stocked for immediate delivery
- Completely pre-wired for ease of installation
- Panel mounted tin plated bus bars
- Recessed interchangeable polycarbonate labels
- All mounting hardware is included
- Modular panel designs
- 1/8" Corrosion resistant aluminum construction
- 3-Year Factory Warranty

Waterproof Line Switch Panels with Fuse Protection



9960002
4.625" W x 6.375" H x 3" D
DC 6 Position Toggle Switch with
Fuse Protection



9960005
4.625" W x 5" H x 3" D
DC 4 Position Toggle Switch with
Fuse Protection



9960007
5.5" W x 6" H x 3" D
DC 5 Position Illuminated Rocker
Switch with Fuse Protection



9960008
5.25" W x 3.75" H x 3" D
DC 4 Position Toggle Switch with
Fuse Protection and LEDs



9960009
7.5" W x 3.75" H x 3" D
DC 6 Position Toggle Switch with
Fuse Protection and LEDs



9960010
2.25" W x 4" H x 3" D
DC Illuminated Rocker Switch with
Fuse Protection



9960011
5.25" W x 4" H x 3" D
DC 4 Position Illuminated Rocker
Switch with Fuse Protection



9960012
7.5" W x 4" H x 3" D
DC 6 Position Illuminated Rocker Switch with
Fuse Protection



9960013
9.5" W x 4" H x 3" D
DC 8 Position Illuminated Rocker Switch with Fuse Protection



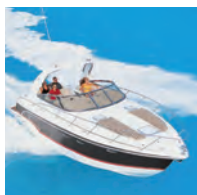
9960014
5.5" W x 4.125" H x 3" D
DC 3 Position Illuminated Rocker Switch with Fuse Protection



9960015
5.5" W x 8.25" H x 3" D
DC 7 Position Illuminated Rocker Switch with Fuse Protection



9952205
5.5" W x 8.25" H x 3.5" D
DC Waterproof 8 Position Circuit Breaker Panel





9960016

4.625" W x 5" H x 3" D
DC 6 Position Toggle Switch with Circuit Breaker Protection



9960017

4.625" W x 5" H x 3" D
DC 4 Position Toggle Switch with Circuit Breaker Protection



9960018

5.5" W x 6" H x 3" D
DC 5 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960019

5.5" W x 4.125" H x 3" D
DC 3 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960020

5.5" W x 8.25" H x 3" D
DC 7 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960022

5.25" W x 5" H x 3" D
DC 4 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960023

7.5" W x 5" H x 3" D
DC 6 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960024

9.5" W x 5" H x 3" D
DC 8 Position Illuminated Rocker Switch with Circuit Breaker Protection



9960021

2.25" W x 4" H x 3" D
DC Illuminated Rocker Switch with Circuit Breaker Protection

Waterproof Switch Panels

Paneltronics offers a simple, reliable solution to satisfy your switch/fuse panel requirements. These quality panels are made from 1/8" corrosion resistant aluminum and are coated with a black polyurethane finish. Each panel includes mounting hardware and a set of interchangeable function labels.

- Ideal for exposed applications
- Rubber booted toggle switches or illuminated rocker switches
- Front access fuse holders for ease of replacement
- Durable 1/8" aluminum construction
- Pre-wired for ease of installation
- Recessed, interchangeable polycarbonate labels
- Toggle switches are provided with rubber boots for protection against dust and prolonged salt-water spray
- Rocker switches are illuminated and sealed to offer protection against dust and prolonged salt-water spray

Fused Panels Technical Information

- Fuses: Rated for 10 Amps
- Fuse Holders: Splash proof and molded of high temperature, flame retardant thermoplastic. (UL recognized and CSA certified for 20Amps @ 250V).
- Front access fuse holders for ease of replacement
- DC Positive Bus: 12AWG, flame retardant, moisture resistant conductor
- Terminations are fully insulated 0.25" quick-connect terminals

Circuit Breaker Panels Technical Information

- CE compliant Thermal Push-to-Reset Circuit Breakers
- Circuit Breakers Rated at 15 Amps
- Trip free, Manual Push-to-Reset Type Circuit Breakers
- Rated at 12VDC
- Rubber boots for protection against dust and prolonged salt-water spray



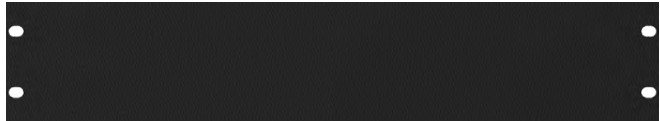
Symbols indicate special features for panels on these pages.

6000 Series 19" Rack Mount Distribution Panels



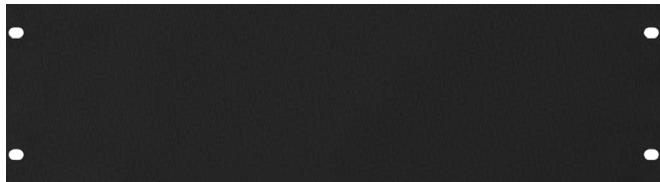
6001

19" W x 1.75" H (1-U)
Blank Panel



6002

19" W x 3.50" H (2-U)
Blank Panel



6003

19" W x 5.25" H (3-U)
Blank Panel



6004

19" W x 7.00" H (4-U)
Blank Panel



6201

19" W x 5.25" H (3-U)
10 Position DC Power Distribution Panel with Meters
Include up to 5 High Amp Circuit Breaker Positions



6202

19" W x 8.75" H (5-U)
28 Position DC Power Distribution Panel with Meters
Include a High Amp Main Circuit Breaker



6301

19" W x 5.25" H (3-U)
1 - AC High Amp Main with Meters
(available for 120 VAC, 240 VAC - 60 Hz and 220 VAC - 50 Hz)



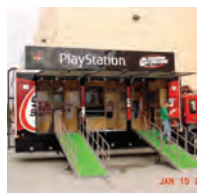
6302

19" W x 5.25" H (3-U)
2 - AC High Amp Mains with Source Selection Sliding Gate Interlock and Meters
(available for 120 VAC, 240 VAC - 60 Hz and 220 VAC - 50 Hz)



6303

19" W x 5.25" H (3-U)
3 - AC High Amp Mains with Source Selection Sliding Gate Interlock and Meters
(available for 120 VAC, 240 VAC - 60 Hz and 220 VAC - 50 Hz)





6304
19" W x 8.75" H (5-U)
18 Position AC Power Distribution Panel with Meters and 2 - AC High Amp Mains with Source Selection Sliding Gate Interlock
(Designed for a 120/240 VAC System)



6401
19" W x 3.50" H (2-U)
Meter Panel Monitor Volts and Amps from both AC and DC sources



6402
19" W x 1.75" H (1-U)
4 Position Circuit Breaker Panel- Available for AC or DC loads



6403
19" W x 3.50" H (2-U)
8 Position Circuit Breaker Panel- Available for AC or DC loads



6404
19" W x 5.25" H (3-U)
16 Position Circuit Breaker Panel- Available for AC or DC loads

Paneltronics Rack Mount Panels are designed for control, monitoring, and protection of AC and DC electrical loads. These panels have all of the features and benefits of the Premier Line Panels detailed on pages 3 and 4. However, they are specifically designed for mounting onto Electronic Industries Association (EIA) compliant 19" racks accommodating preferred 482.60 mm standard panel widths and the modular unit "U" height of 44.45 mm.

These Rack Mount panels can be used to quickly and easily configure custom power distribution systems. They offer a varied selection of modular designs that combined can create large or small systems. The series includes panels for 12VDC, 24VDC, and 120VAC-60Hz, 240VAC-60Hz, and 220VAC-50Hz.

6000 Series
19" Rack Mount Distribution Panels

- DC Panels Available for:
- AC Panels Available for:
- 12 VDC

■ 24 VDC
- 120 VAC - 60 Hz

■ 240 VAC - 60 Hz

■ 220 VAC - 50 Hz

Panel Series	Modular Width	Page
1000	5.50" (139.70 mm)	4
2000	5.50" (139.70 mm)	4
3000	13.75" (349.20 mm)	6
4000	17.75" (450.85 mm)	8
5000	11.00" (279.40 mm)	12
6000	19.00" (482.60 mm)	20



Symbols indicate special features for panels on these pages.

7000 Series Push-to-Reset Distribution Panels



7203
16.50" W x 5.50" H x 2.50" D DC 30 Position Push-to-Reset Circuit Breaker Panel
9997203
Black, 12/24 VDC, Loaded with 30 - 15Amp Push-to-Reset Circuit Breakers



7226
4.50" W x 9.00" H x 2.50" D
DC 12 Position Push-to-Reset
Circuit Breaker Panel
9997226 Black, 12/24 VDC,
Loaded with 12 - 15Amp
Push-to-Reset Circuit Breakers



7236 *Shown with optional Rubber Boots*
6.00" W x 9.00" H x 2.50" D
DC 18 Position Push-to-Reset
Circuit Breaker Panel
9997236
Black, 12/24 VDC,
Loaded with 18 - 15Amp
Push-to-Reset Circuit Breakers



7252
9.00" W x 3.50" H x 2.50" D DC 10 Position Push-to-Reset Circuit Breaker Panel
9997252
Black, 12/24 VDC, Loaded with 10 - 15Amp Push-to-Reset Circuit Breakers



7253
9.00" W x 4.85" H x 2.50" D DC 15 Position Push-to-Reset Circuit Breaker Panel
9997253
Black, 12/24 VDC, Loaded with 15 - 15Amp Push-to-Reset Circuit Breakers



7255 *Shown with optional Rubber Boots*
9.00" W x 7.60" H x 2.50" D DC 25 Position Push-to-Reset Circuit Breaker Panel
9997255
Black, 12/24 VDC, Loaded with 25 - 15Amp Push-to-Reset Circuit Breakers



Shown with optional Rubber Boots

7262
10.50" W x 3.50" H x 2.50" D DC 12 Position Push-to-Reset Circuit Breaker Panel
9997262
Black, 12/24 VDC, Loaded with 12 - 15Amp Push-to-Reset Circuit Breakers



7263
10.50" W x 4.85" H x 2.50" D DC 18 Position Push-to-Reset Circuit Breaker Panel
9997263
Black, 12/24 VDC, Loaded with 18 - 15Amp Push-to-Reset Circuit Breakers



7273
12.00" W x 5.50" H x 2.50" D DC 21 Position Push-to-Reset Circuit Breaker Panel
9997273
Black, 12/24 VDC, Loaded with 21 - 15Amp Push-to-Reset Circuit Breakers

Push-to-Reset Circuit Protection for 12 VDC or 24 VDC Electrical systems.

This panel line is designed for applications where 24-hour circuit protection is required or for circuit protection of loads that are switched remotely.

Optional Clear Rubber Boots can be installed on the circuit breakers to protect the front of the panels and accommodate installation in exposed wet area such as open cockpits and flybridges.

A Black textured polyurethane finish is standard on all panels. Additional color options are also available - see page 3.

Features:

- 24 Hour Circuit Protection
- 12 VDC or 24 VDC
- Custom Loaded to your Specifications (5, 10, 15, 20, 25, and 30 Amps)
- Custom Labeled to your Specifications (see pages 47- 51 for label selection)
- Pre-wired with Common Positive Buses for faster installation

Circuit Breakers:

- Ignition Protected (UL 1500/ISO8846)
- Trip Free (ABYC E-11.10.1.5.4)
- Manual Reset type (ABYC E-11.10.1.5.6)
- UL Recognized (UL 1077) and CSA certified
- CE marked



Symbols indicate special features for panels on these pages.

Simplify your installation while adding protection, safety, and enhanced appearance of your electrical system.

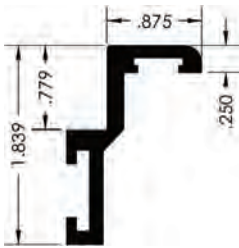
Mounting Frames

Decorative aluminum Mounting Frames eliminate the pressure of making an exact cutout for the panel to fit in and are available in three designs: High Profile, Slim, and Recessed Slim. Recessed and High Profile Frames recess the panel to help prevent accidental turning on or off of circuit breakers. In addition, a smoked or clear Plexiglas door may be installed for added protection of the panel.

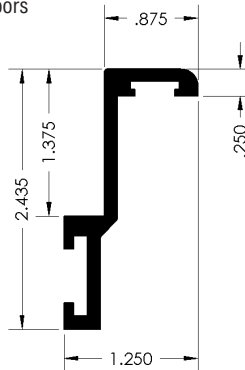
All Slim Frames are ideal for smaller areas; the flange is only 7/8". All frames are available in custom sizes to fit your specific customized panel configuration. They may be used to accommodate multiple panel combinations and may also be hinged to allow for easier installation and future service of the electrical system. Designed for the marine environment with durable materials, these frames create an elegant, finished look.

Benefits:

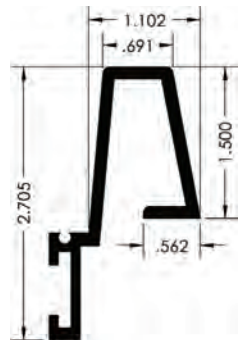
- Reduce installation time
- Help to prevent accidental turning on or off of critical circuits
- Enhance the panel installation
- Conceal bulkhead cutout imperfections
- Provide the option to add Plexiglas doors



Slim Frame
P/N 111-267



Recessed Slim Frame
P/N 111-427



High Profile Frame
P/N 100-649K



Isometric View

Enclosures

Protecting the electrical connections at the panel can help prevent potential electrical hazards. Paneltronics' enclosures protect the wiring in situations where the back of the panel may be exposed. Terminal blocks and bus bars can also be mounted on the back plate of the enclosure providing a central location for your wiring. Enclosures are available in standard depths, while the widths and heights are custom sized to meet your requirements. Paneltronics' enclosures are designed for the harsh marine environments and constructed of durable, corrosion resistant aluminum.

Benefits:

- Electro-Mechanical protection to exposed components
- Custom sized to fit most panel configurations
- Can be used for a variety of applications
- Custom wire access ports can be added

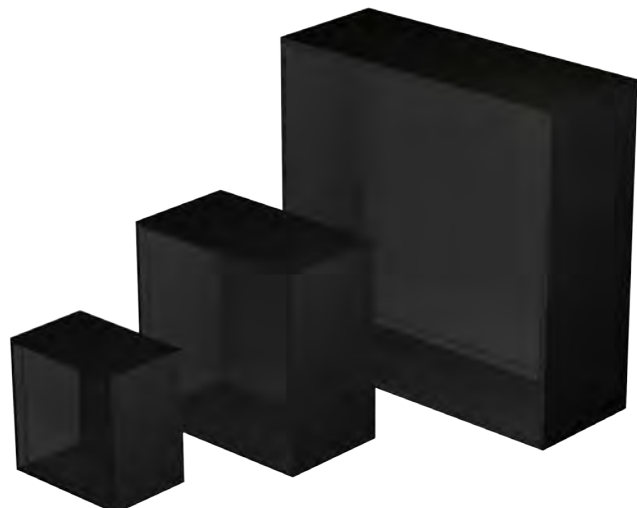


Plexiglas Doors

These attractive doors are available in either a clear or smoked finish and are hinged to conveniently open left or right, up or down. They are factory installed as an option, and in addition to providing a more smooth and finished look, they also help to protect your panel from dust, the environment, and accidental turning on or off of critical circuits.

Benefits:

- Help to protect panel from dust and accidental access
- Help to prevent accidental turning on or off of critical circuits
- Enhance appearance



Standard Enclosure Depths: 6.50", 8.50", 10.00"

Paneltronics designs and manufactures custom enclosure box-build assemblies that efficiently consolidate multiple parts, components, and functions into a central control unit. These pre-assembled units can be designed for use in engine rooms, engine compartments, or any conveniently accessible location where centralized control is required.

Our Engineering Team carefully evaluates every design element and incorporates all specifications for size constraints as well as mounting, vibration, environmental and accessibility requirements. These are coupled with the specific electrical and mechanical requirements to design an optimal cost effective solution. Our team can also design turnkey solutions from concept to finished product or build-to-print to satisfy specific OEM customer requirements.

These high quality enclosures are designed for rugged environments such as off-highway, heavy truck, construction, or marine applications. They simplify installation by reducing labor and providing a central location for operation and/or troubleshooting.

Solutions

Paneltronics enclosure box-build assemblies provide efficient consolidated assembly solutions for several common functions and requirements including:

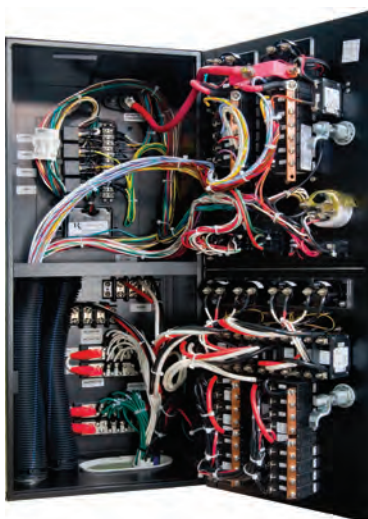
- Ignition protection
- Battery switching
- Circuit protection
- Common buses
- Solenoids
- Relays
- Control module protection
- Sensors
- Monitoring devices



Ignition Protected Main DC power distribution enclosure assembly. Includes: battery switching solenoids, circuit breakers, fuse blocks, relays, external power studs and connectors.



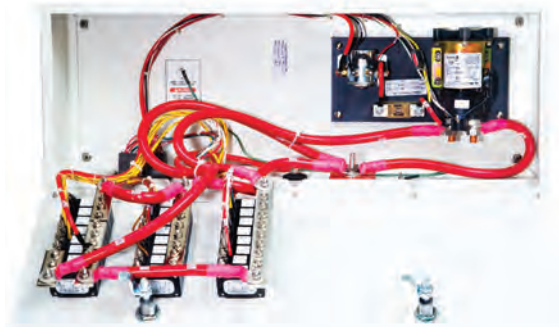
Main AC/DC Electrical Distribution Panel and Enclosure assembly. Isolated AC and DC distribution panels are individually hinged. Includes: terminal blocks, ground buses, relays, and wire access openings. All wires are labeled for easier installation.



Flush mount DC Control Panel with enclosure protection and internal wire management. Includes: meters, circuit breakers, switches for remote battery selection, terminal blocks, ground buses, and rear access connectors and power studs.



Main DC Control Engine Room Panel with enclosure protection. Includes: ignition protected circuit breakers, solenoids, relays, ANL fuses, wire access ports, external connectors and power studs. Key locked access for easier and safer service.



Features

Enclosure box-build assemblies features include:

- Surface or bulkhead mount options
- Hinged front panel faces or covers
- Wire access ports
- High amp, custom flexible buses
- Multi-pin bulkhead connectors
- High amp power feed-through studs
- Corrosion resistant aluminum fabrication
- Polyurethane or powder coat finishes
- Optional pre-fabricated fiberglass or plastic enclosures

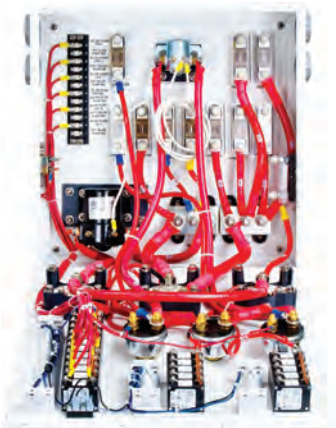
Benefits

Enclosure box-build assemblies benefit the production process with:

- Reduced installation labor and increased productivity
- Consistent electro-mechanical assemblies
- A central location for key functions and components
- Reduced wiring errors on the production line
- Go-to point for system troubleshooting
- Added durability and reliability
- Turnkey assemblies from a single source



Main DC Power Distribution Enclosure assembly. Includes: battery switches, circuit breakers, ANL fuse blocks, relays, and external access ports.



Main AC/DC Electrical Distribution Panels mounted on a hinged mounting frame. The complete assembly opens along with the AC enclosure permanently attached with mounting hardware. Includes: terminal blocks, ground buses, and wire access ports. This assembly includes a Plexiglas door for additional protection.



Bulkhead mount Main DC Engine Room Control Panel with enclosure protection. Includes: ignition protected circuit breakers, fire protection control module, external connectors and power studs.



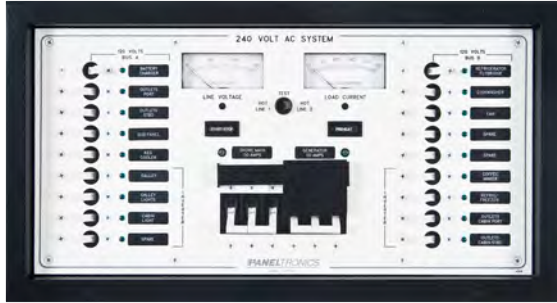
Main DC Power Disconnect and Distribution Enclosure assembly. This assembly is pre-wired with flexible bus bars that permit a higher density in a smaller enclosure. Includes: a NEMA rated fiberglass enclosure, ignition protected circuit breakers, battery switching solenoids, relays, fuse blocks, control modules, and external connectors and power studs.

OEM Custom Panels

Paneltronics is an outsource turnkey manufacturer of electrical power distribution panels, instruments panels, switch panels and enclosure box-build assemblies for Original Equipment Manufactures - OEMs. These products gave us our start in 1979 and continue to be the main stay of our business.

Paneltronics' OEM customers rely on our Design, Engineering, and Manufacturing expertise to deliver custom panels, systems, and assemblies that are technically superior, quality built, and can be trusted to perform reliably. Our flexibility allows us to build-to-print or fully deliver from concept through completion.

Contact our Technical Sales Team to discuss your custom requirements and let us put our experts to work for you.



Vertically Integrated Engineering

- Application Engineering support
- Mechanical Design and Engineering support
- Electrical Design and Engineering support
- Component Specification and Sourcing
- Graphic Design and Styling
- Enclosure / Box-Build System Consolidation and Optimization
- Engineering Documentation and Revision Control

Vertically Integrated Manufacturing

- 3D-CAD Solid Works and AutoCAD
- Prototyping
- CNC Sheet Metal Punching
- CNC Milling and Routing
- Welding and Sheet Metal Fabrication
- Painting
- Hydrographic Film Application
- Silk-Screen Printing
- Wire Harness Assembly
- Wire Imprinting
- Injection Molding and Tooling
- Electro-Mechanical Production Line Assembly
- Low Volume Electro-Mechanical Assembly Stations
- System Testing
- Foam-in-Place Packaging

We Manufacture Products for:

- Agricultural Equipment
- Boats
- Broadcast Vehicles
- Buses
- Command Post Vehicles
- Communication Vehicles
- Construction Equipment
- Display & Merchandising Equipment
- Emergency Vehicles
- Fire Trucks
- Generators
- Golf & Turf Equipment
- Hazmat Vehicles
- Material Handlers
- Mobile Command Vehicles
- Motor Coaches
- Off-Highway Vehicles
- Portable Compressors
- Recreational Vehicles
- Specialty Vehicles
- Utility Vehicles
- Yachts



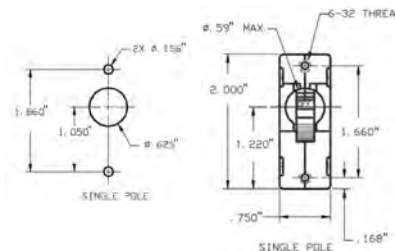
“A” Frame Magnetic Circuit Breakers

- Standard branch AC or DC circuit breaker for Paneltronics electrical distribution panels
- Meets all American Boat and Yacht Council (ABYC) Standards for non ignition protected circuit breakers
- UL Recognized (UL 1077) for use in the U.S.A. and CSA Certified for use in Canada (ABYC E-11.10.2.1)
- Trip free (ABYC E-11.10.1.5.4 and E-11.10.2.1.1)
- Manual reset (ABYC E-11.10.1.5.6 and E-11.10.2.1.1)

Specifications

Handle Color	White
Maximum Amperage	50 Amps
Maximum Voltage/ AIC Rating	32 VDC/ 2,500 Amps with no Back-up Fuse (ABYC E-11.10.1.5.5) 250 V 50/ 60 Hz / 3,650 Amps with maximum rated series 80 Amp Back-up Fuse (ABYC E-11.10.2.1.2)
Rated Switch Cycles	10,000 actuations at rated current and voltage
Electrical Hardware	Screw 10-32 x 3/8" pan combo head (P/N 197-188)
Mounting Hardware	Screw 6-32 x 5/16 black flat Phillips head (P/N 197-002) Screw 6-32 x 5/16" white flat Phillips head (P/N 197-002W)
Hole Plugs	5/8" diameter Black (P/N 016-005) and White (P/N 016-021)

206-072S



Amperage	Circuit Breaker Part Numbers	
	Single Pole	Double Pole
5	206-070S	206-078S
10	206-071S	206-079S
15	206-072S	206-080S
20	206-073S	206-081S
25	206-074S	206-082S
30	206-075S	206-083S
40	206-076S	206-084S
50	206-077S	206-085S

CE Compliant “A” Frame Magnetic Circuit Breakers

- Branch AC or DC circuit breaker for Paneltronics electrical distribution panels
- Meets all American Boat and Yacht Council (ABYC) Standards for non-ignition protected circuit breakers
- UL Recognized (UL 1077) for use in the U.S.A., and CSA Certified for use in Canada, VDE Approved, and CE Compliant for use in Europe (ABYC E-11.10.2.1)
- Trip free (ABYC E-11.10.1.5.4 and E-11.10.2.1.1)
- Manual reset (ABYC E-11.10.1.5.6 and E-11.10.2.1.1)

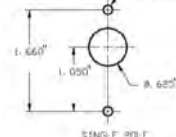
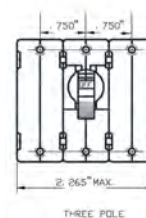
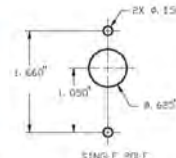
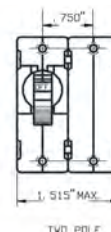
Specifications

Handle Color	White or Black
Maximum Amperage	30 Amps
Maximum Voltage/ AIC Rating	80 VDC/ 7,500 Amps with no Back-up Fuse (ABYC E-11.10.1.5.5) 250 V 50/ 60 Hz / 5,000 Amps with maximum rated series 80 Amp Back-up Fuse (ABYC E-11.10.2.1.2)
Rated Switch Cycles	10,000 actuations at rated current and voltage
Electrical Hardware	Screw 10-32 x 3/8" pan combo head (P/N 197-188) External tooth lockwasher #10 (P/N 197-051)
Mounting Hardware	Screw 6-32 x 1/4" black flat Phillips head (P/N 197-182) Screw 6-32 x 1/4" white flat Phillips head (P/N 197-182W)
Hole Plugs	5/8" diameter Black (P/N 016-005) and White (P/N 016-021)

206-165S



206-087S



Amperage	CE Compliant				
	Single Pole		Double Pole-Single Handle		Double Pole- Double Handle
Handle Color >	White	Black	White	Black	Black
1	206-210S	206-227S			
2	206-149S	206-228S			
5	206-151S	206-230S	206-161S	206-333S	206-240S
7.5	206-152S	206-231S			
10	206-153S	206-232S	206-162S	206-334S	206-241S
15	206-154S	206-233S	206-163S	206-335S	206-242S
16	206-155S	206-234S	206-164S	206-336S	206-243S
20	206-156S	206-235S	206-165S	206-337S	206-244S
25	206-157S	206-236S	206-166S	206-338S	206-245S
30	206-158S	206-237S	206-167S	206-339S	206-246S

Shore Main Circuit Breakers with Reverse Polarity Trip Coil

- Shore main AC circuit breaker for Paneltronics electrical distribution panels
- 120VAC 60 Hz (simultaneously breaks both hot and neutral legs)
- 220VAC 50 Hz (simultaneously breaks both live and neutral legs)
- Reverse Polarity Protector 65VAC trip coil (Surge arrestor P/N 281-001 required) (ABYC E-11.6.3.3.1)

Amperage	CE Marked		
Handle Color>	White	White	Black
16/65V	206-086	206-171S	206-343S
30/65V	206-087S	206-172S	206-344S
50/65V	206-353S		

Smart Breaker: Trips automatically upon sensing reverse polarity

Circuit Breaker Handle Locks

- For CE compliant “A” and “C” Frame Breakers
- Prevents inadvertent actuation of the circuit breaker handle in either the ON or OFF position
- Does not interfere with the circuit breaker’s trip mechanism

Color	Part Number Single Handle
Red	206-213
Black	206-214
White	206-215

206-213



Panel Seal/ Waterproof “A” Frame Magnetic Circuit Breakers

- Branch AC or DC Circuit Breakers for Paneltronics electrical distribution panels
- Meets all American Boat and Yacht Council (ABYC) Standards for non ignition protected circuit breakers
- UL Recognized (UL 1077) for use in the U.S.A., and CSA Certified for use in Canada
- Trip free (ABYC E-11.10.1.5.4 and E-11.10.2.1.1)
- Manual reset (ABYC E-11.10.1.5.6 and E-11.10.2.1.1)

Specifications

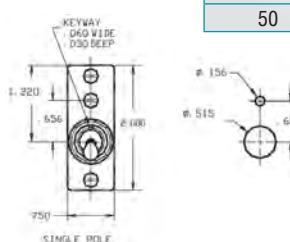
Handle	Metal with Silicon rubber seal
Maximum Amperage	50 Amps
Maximum Voltage/ AIC	32 VDC/ 2,500 Amps with no Back-up Fuse (ABYC E-11.10.1.5.5)
Rating	Rated Switch Cycles 10,000 actuations at rated current and voltage
Electrical Hardware	Screw 10-32 x 3/8" pan combo head (P/N 197-188)
Mounting Hardware	Hex nut 1/2-32 (supplied with circuit breaker)
	Lockwasher 1/2" internal tooth (supplied with circuit breaker)
Optional Boot	Black silicone rubber (P/N 048-015)

206-052S



Amperage	Part Number
5	206-051S
10	206-052S
15	206-053S
20	206-054S
25	206-055S
30	206-056S
40	206-057S
50	206-058S

048-015



“C” Frame Magnetic Circuit Breakers

- Standard Circuit Breakers for Paneltronics electrical distribution panels
- Meets all American Boat and Yacht Council (ABYC) Standards for non-ignition protected circuit breakers
- UL Recognized (UL 1077) for use in the U.S.A., and CSA Certified for use in Canada
- Trip free (ABYC E-11.10.1.5.4)
- Manual reset (ABYC E-11.10.1.5.6)

Specifications

Electrical Hardware	Hex Nut 1/4-20 (supplied with circuit breaker)
Flat Washer	1/4" Diameter (supplied with circuit breaker)
Mounting Hardware for non-CE Breakers	Screw 6-32 x 5/16" black flat Phillips head (P/N 197-002)
Mounting Hardware for CE Breakers	Screw 6-32 x 5/16" white flat Phillips head (P/N 197-002W)
Hole Plug	Screw 6-32 x 1/4 black flat Phillips head (P/N 197-182)
	Screw 6-32 x 1/14" white flat Phillips head (P/N 197-182W)
	Black (P/N 100-295)

206-025



206-131

Circuit Breaker Part Number

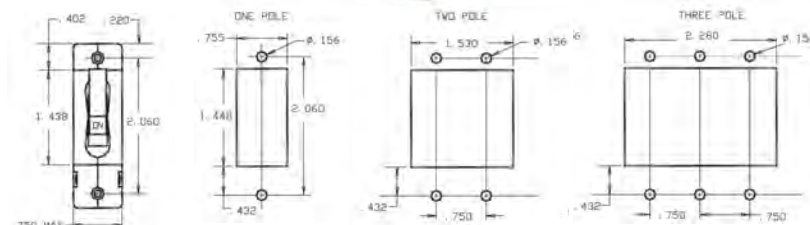
				“C” Frame- UL Recognized					
				CE Compliant					
	37 VDC MAX AIC 5,000 Amps	250 VAC MAX AIC 5,000 Amps		80 VDC MAX AIC 10,000 Amps		250 VAC MAX AIC 5,000 Amps			
Amp	Single Pole White	Double Pole White	Triple Pole White	Single Pole White	Single Pole Black	Double Pole White	Double Pole Black	Triple Pole White	Triple Pole Black
10		206-137				206-224	206-258		
15		206-138				206-209	206-259		
20		206-139				206-225	206-261		
25		206-140				206-226	206-262		
30		206-129	206-059			206-178	206-263	206-184	206-270
40	206-144	206-130	206-060	206-173	206-253	206-179	206-350	206-185	206-271
50	206-026	206-131	206-061	206-174	206-254	206-180	206-352	206-186	206-272
60	206-049	206-132	206-062	206-175	206-255				
80	206-024	206-133	206-135	206-176	206-256				
100	206-025	206-134	206-136	206-177	206-257				

Shore Main Circuit Breakers with Reverse Polarity Trip Coil

“C” Frame- UL Recognized			
Amperage	250 VAC MAX - AIC 5,000 Amps		
	CE Compliant		
	Triple Pole White	Triple Pole White	Triple Pole Black
16A/65V	206-127	206-190	206-276
30A/65V	206-126	206-191	206-277
50A/65V	206-128	206-192	206-278

Smart Breaker: Trips automatically upon sensing reverse polarity

206-136



"E" Frame Magnetic Circuit Breakers

- Standard three pole Circuit Breakers for Paneltronics electrical distribution panels
- Meets all American Boat and Yacht Council (ABYC) Standards for non ignition protected circuit breakers
- UL Listed (UL 489) for use in the U.S.A., and CSA Certified for use in Canada
- Trip free (ABYC E-11.10.1.5.4)
- Manual reset (ABYC E-11.10.1.5.6)

Specifications

Handle Color	Black
Maximum Amperage	100 Amps
Maximum Voltage/ AIC Rating	240 VAC/ 5,000 Amps
Rated Switch Cycle	10,000 actuations at rated current and voltage
Electrical Hardware	Hex Nut 1/4-20 (supplied with circuit breaker)
Flat Washer	1/4" Diameter (supplied with circuit breaker)
Torque Rating	45 in-lbs (5Nm) max
Mounting Hardware	6@ 6-32 x 3/8" black flat head Phillips head (197-098) 6@ 6-32 x 3/8" white flat head Phillips head (197-098W)
Torque Rating	8 in-lbs (0.9Nm) max
Hole Plug	Black (100-296)

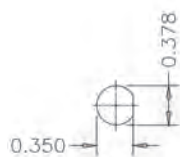
Amperage	Circuit Breaker Part Numbers	
	Double Pole	Triple Pole
16	206-034	206-036
30	206-043	206-037
40	206-044	206-038
50	206-045	206-039
60	206-046	206-040
80	206-047	206-041
100	206-048	206-042



206-039

Single Pole - Ignition Protected CE Compliant Thermal Push-to-Reset Circuit Breakers

- Branch Circuit Breaker for Paneltronics electrical distribution panels 12 or 24 VDC breaks positive line
- Meets all American Boat and Yacht Council (ABYC) Standards for ignition protected circuit breakers UL 1500 and ISO 8846
- UL Recognized (UL 1077) for use in the U.S.A., CSA Certified for use in Canada and CE Compliant for use in Europe
- Trip free (ABYC E-11.10.1.5.4)
- Manual reset (ABYC E-11.10.1.5.6)



048-034



004-528

Specifications

Handle Color	White
Maximum Amperage	30 Amps
Maximum Voltage/ AIC Rating	32 VDC/ 2,500 Amps (ABYC E -11.10.1.5.5)
Mounting Hardware	Knurled dress nut 3/8-27 black plastic (P/N 001-185) Backup hex nut 3/8-27 brass nickel-plated (P/N 001-181)
Boot	Clear Silicone rubber boot fits 3/8-27 UNS-2B bushing (P/N 048-033) White Silicone rubber boot fits 3/8-27 UNS-2B bushing (P/N 048-034) Black Silicone rubber boot fits 3/8-27 UNS-2B bushing (P/N 048-035)

Amperage	1/4" Quick Connect Terminals	Screw Terminals	90° Screw Terminals
5	004-524	004-507	004-624
7	004-525		004-625
10	004-526	004-508	004-626
15	004-527	001-195	004-627
20	004-528	004-509	004-628
25	004-529		004-629
30	004-530		004-630

Series 187 Panel Mount Thermal Circuit Breakers (MRCB)

- Main circuit breaker over current protection for 12VDC systems, and Branch circuit breaker protection for 12 or 24VDC systems
- Ignition Protected (ABYC E-11.10.1.5.1 and SAE J1171)
- Meets the requirements of SAE J1428 for use in the U.S.A. and CE marked for use in Europe
- Trip free (ABYC E-11.10.1.5.4)
- Manual reset (ABYC E-11.10.1.5.6)

Specifications

Handle Color	Yellow
Maximum Voltage	48VDC
Maximum Amperage	150 Amps
AIC Rating	5,000 Amps @ 12VDC 3,000 Amps @ 24VDC 1,500 Amps @ 42VDC
Watertight per IEC 60529	IP66 Rating
Operating Temperature	-40°F (-40°C) to 185°F (85°C)
Mounting Hardware	2@ #10 X 1" Pan Head Phillips Screw Black (198-014)

Part Number	Amperage
010-009	100



010-009

Panel mount and surface mount in additional amperages available.
Contact Paneltronics for availability and information.

Circuit Breaker Color Caps

- For "A" Frame Breakers (except CE Compliant and Waterproof units)
- Provides high visibility color coding for critical circuits



206-096

Part Number	206-093	206-094	206-095	206-096	206-097	206-098	206-099
Color	Red	Orange	Yellow	Green	Blue	Gray	White

Circuit Breaker Hole Plugs

- For "A" Frame Breakers
- Covers unused circuit breaker panel position



016-004

Part Number	Diameter	Color
016-004	1/2"	Black
016-020	1/2"	White
016-005	5/8"	Black
016-021	5/8"	White

S Series Push To Reset Thermal Circuit Breakers (SDLM)

- Main and Branch circuit breaker overcurrent protection for 12VDC systems.
- Ignition Protected (ABYC E-11.10.1.5.1 and SAE J1171)
- Meets the requirements of SAE J1625 for use in the U.S.A. and CE marked for use in Europe
- Trip free (ABYC E-11.10.1.5.4)
- Manual reset (ABYC E-11.10.1.5.6)

Specifications

Handle Color	Red
Maximum Voltage	30VDC
Maximum Amperage	150 Amps
AIC Rating	5,000 Amps @ 12VDC
Watertight per IEC 60529	IP67 Rating
Operating Temperature	-60°F (-51.1°C) to 160°F (71°C)
Mounting Hardware	#10-32 X 3/4" Flat Head Phillips Screw Black (197-095)

Amperage	Part Number
80	001-401
90	001-778
105	001-360
120	001-375
150	001-729

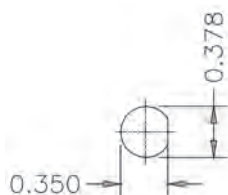


001-729

Fuse Holder Assembly

- Low profile
- Splash Proof
- For AGC and 3AG glass fuses (1/4" Diameter x 1/4" Long)
- Maximum panel thickness 0.300 inches
- Tin plated brass terminals
- UL Recognized and CSA Certified (250 VAC/ 250 VDC 20 A max)

Part Number
010-005



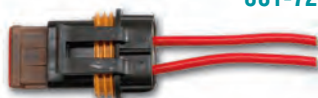
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In-line ATC fuse holder assembly

- Waterproof
- Terminals are tin plated brass
- 8" pigtails are tin plated copper 105°C (ABYC E-11.14.2.1.1)
- Accepts ignition protected (UL 1500/ SAE J1171) ATC Type fuse with 5,000 AIC rating at 24 VDC (ABYC E-11.10.1.6.2)

CAP for 001-724

Part Number	Pigtail Gauge	Pigtail Color
001-724	#14	Red
001-730	#12	Red



001-724

ATC type Ignition Protected Fuse

- Ignition protected (UL 1500/ SAE J1171) ATC TYPE
- AIC Rating- 5000 Amps at 24 VDC- (ABYC E-11.10.1.6.2)
- Sealed with silicon-sand arc quenching filler
- Standard 1/4" blade

Part Number	Rating	Color
010-001	5A	Tan
010-002	7.5A	Brown
010-006	10A	Red

001-001



001-006



Circuit Breaker Mounting Screws

- Screws are stainless steel 6-32 phillips
- Heads are coated with polyurethane paint to prevent corrosion

Part Number	Screw Head	Length	Color
197-001	Pan	5/16"	Black
197-002	Flat	5/16"	Black
197-182	Flat	1/4"	Black
197-133	Pan	3/8"	Black
197-098	Flat	3/8"	Black
197-001W	Pan	5/16"	White
197-002W	Flat	5/16"	White
197-182W	Flat	1/4"	White
197-098W	Flat	3/8"	White



197-002W



197-002

Combo Head Screws

- For "A" Frame Circuit Breaker electrical connections and terminal strips
- Screws are 10-32 stainless steel
- Install with either blade or phillips screwdriver

Part Number	Length
197-188	3/8"



197-188

Sealing Boots For C-Frame Circuit Breakers

- Front-panel mounted boot and frame for single lever and rocker actuated C-Frame circuit breakers
- Transparent boot marked ON with molded-in trigger to eliminate contact teasing
- Will not discolor or crack due to UV/ageing
- RoHs compliant

Specifications

Material	Boot, Transparent Silicone Rubber Frame, Steel Zinc Plated with Chromate Finish
Operating Temperature	-80°F (-62.2°C) To 400°F (204°C)
Watertight per IEC 60529	IP66 Rating Or IP68 depending on installation
Mounting Hardware	2@ #6-32 X 3/8" slotted stainless steel screws with Rubber O-Rings (supplied with boot)

Part Number	Frame Color
001-723	Chrome
001-723B	Black



001-723B

Parts & Components

Digital Meters

- Monitor marine/ land based power distribution and generating systems (ABYC E-11.9.3.2)
- AC voltmeter and AC ammeter are true RMS (ABYC E-11.9.3.2.3)
- Surface mount with only two 5/32" diameter holes
- Window mount in standard 2.5" analog meter cutout (2.90" W x 1.28" H)
- Three digit LED display (Frequency meters are two digits)
- Reversed Polarity Protected
- Splashproof front
- Includes pigtails, mounting hardware, and instructions

Part Number	Description	Range	Input	Sensitivity	Shunt or CT P/N
570-001B	DC Voltmeter	0-50 VDC	Direct Read	0-50 VDC	N/A
570-002B	DC Ammeter	0-100 DCA	Shunt Rated	100 A/50 mV	289-013
570-003B	AC Voltmeter	10-250 VAC	Direct Read	0-250 VAC	N/A
570-004B	AC Ammeter	0-100 ACA	Transformer Rated	100 A/ 100 mA	289-009
570-005B	Freq. Meter	10-99 Hz	Direct Read	120-240 VAC	N/A
570-006B	DC Ammeter	0-500 DCA	Shunt Rated	500 A/ 200 mV	289-037

570-001B

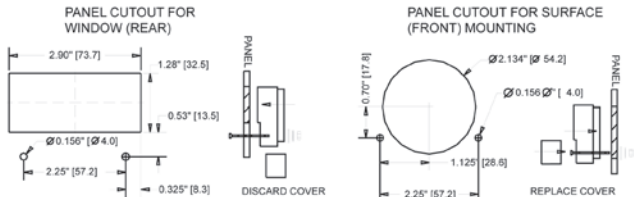


Specifications

Display Character Size	9/16"
Input Voltage	8-32 VDC
Power Consumption	1 Watt 12VDC
Accuracy	+/-1 Count
Operating Temperature Range	32-122°F

Dimensions

Width	3.08" (78.23 mm)
Height	2.38" (60.45mm)
Depth	1.0" (25.40mm)



DC Ammeter Shunts

- Compact space-saving design
- Insulated mounting base
- End blocks are machined from solid naval brass
- Temperature coefficient 0.002% per 1°C
- Resistance elements are manganin for long term temperature stability
- Potential terminals are 6-32 brass screws

Part Number	Rating	Size L x W x H	High and Low Line Terminals
289-010	50 mV/80 A	1.625 x 1.25 x 1.687	1/4- 28 UNF Studs
289-013	50 mV/100 A	1.625 x 1.25 x 1.687	1/4- 28 UNF Studs
289-015	50 mV/50 A	1.625 x 1.25 x 1.687	1/4- 28 UNF Studs
289-037	200 mV/500 A	3.250 x 1.75 x 1.750	3/8-16 UNC hex Head Bolt

289-013



289-037



AC Miniature Meter Current Transformer

- Tape wound for quiet, long term, reliable, performance
- Tough PVC moisture resistant coating
- Rated for 50/60 Hz operation
- 6" secondary pigtails are tin plated, copper and are color coded red and black
- Temperature range 0-80°C



289-009

Approximate Dimensions:
1.77 inches - OD
0.72 inches - ID
0.49 inches - H

Part Number	Coil Ratio	Max Primary Current	Secondary Output
289-009	1000-1	100 Amps	100mA

Solid State 12 Volt Dual Blower Controller

- Enables remote control of two blower motors from multiple locations
- Conveniently located, low current, SPST Momentary, switches with Integral Green LED Status Indicators (P/N 004-454) Control Blower Motors
- Status indicators flash if either blower fails
- Requires three #14 AWG Conductor Switch Control Circuit
- Surface Mount
- Meets SAE J1171, External Ignition Protection of Marine Devices (ABYC E-11.5.3.1 AND E-11.4.15 Note 7)

Specifications

Enclosure Material	ABS - UL 94 V-0
Color	Black
Weight	0.12 lb (0.005 kg)
Size	4.3" (109.4 mm) x 3.8" (95.3 mm) x 1.4" (35.6 mm)
Mounting Hardware	4@ 8-32 x 1/2" round head slotted screw with external tooth lock washer (197-033)
Maximum Voltage	16 VDC
Minimum Voltage	10 VDC
Maximum Current	10 Amps per blower motor
Fuse	2@ 10 Amps Ignition Protected blade type (010-006)
Fuse Holder	2@ In-Line blade type (001-724)
Operating Temperature	-40°F (-40°C) to 185°F (85°C)

Part Number
139-004



139-004

Analog Meters

- Window Mount
- Easy to read compatible scale plates
- True RMA AC voltmeters accurately read inverter modified square wave output (ABYC E-11.9.3.2.3)
- AC voltmeters can be installed on panelboards that are permanently connected to motors or generators (ABYC E-11.9.3.2)
- Accuracy +/- 2%

M1- 1 1/2" Panel Meters

Part Number	Meter Type	Range	Description	Sensitivity
289-053	DC Volts	8-16 VDC	Moving magnet, suppressed zero	100 ohm/V
289-054	DC Amps	0-50 DCA	Moving magnet, zero left, internal shunt	N/A
289-049	AC Volts	0-150 VAC	Taut band, moving coil, rectifier type	900 ohm/V
289-050	AC Volts	0-300 VAC	Taut band, moving coil, rectifier type	900 ohm/V
289-051	AC Amps	0-50 ACA	Moving magnet, external transformer rated	CT P/N 289-009

M2- 2 1/2" Panel Meters

Part Number	Meter Type	Range	Description	Sensitivity
289-001	DC Volts	8-16 VDC	Taut band, moving coil, suppressed zero	1000 ohm/V
289-017	DC Volts	16-32 VDC	Taut band, moving coil, suppressed zero	1000 ohm/V
289-025	DC Volts	0-50 VDC	Taut band, moving coil	1000 ohm/V

Part Number	Meter Type	Range	Description	Shunt P/N
289-002	DC Amps	0-50 DCA	Taut band, moving coil, zero left, internal shunt	N/A
289-005	DC Amps	0-80 DCA	Taut band, moving coil, 50Mv/80A shunt rated	289-010
289-014	DC Amps	0-100 DCA	Taut band, moving coil, 50Mv/100A shunt rated	289-013
289-016	DC Amps	0-50 DCA	Taut band, moving coil, 50Mv/50A shunt rated	289-015
289-031	DC Amps	100-0-100	Taut band, moving coil, 50Mv/100A shunt rated	289-013

Part Number	Meter Type	Range	Description	Sensitivity
289-003	AC Volts	0-150 VAC	Iron vane, 60 Hz nominal input, true RMS	126K ohm/V
289-007	AC Volts	0-300 VAC	Iron vane, 60 Hz nominal input, true RMS	33.55K ohm/V

Part Number	Meter Type	Range	Description	CT P/N
289-004	AC Amps	0-50 ACA	Taut band, moving coil, rectified type, self contained	N/A
289-006	AC Amps	0-80 ACA	Taut band, moving coil, rectified type, transformer rated	289-009
289-011	AC Amps	0-50 ACA	Taut band, moving coil, rectified type, transformer rated	289-009
289-024	AC Amps	0-100 ACA	Taut band, moving coil, rectified type, transformer rated	289-009
289-055	AC Amps	0-200 ACA	Taut band, moving coil, rectified type, transformer rated	289-009

Part Number	Meter Type	Range	Description	Input Voltage
289-027	Frequency	45-55 Hz	220 VAC 50Hz	220 VAC
289-029	Frequency	55-65 Hz	120 VAC 60Hz	120 VAC
289-034	Frequency	45-65 Hz	240 VAC 60 Hz or 220 VAC 50Hz	240 VAC

Analog Meter Illumination Kits (for M2 type meters only)

- High intensity red LED 12VDC 12mA, 24 VDC 6mA, and 32 VDC 4mA
- Easy to install prism assembly

Part Number	LED Color	LED Voltage
100-249-7	Red	12 VDC
100-249-8	Red	24 VDC
100-249-9	Red	32 VDC



Series 8500 Quartz Plus DC Hour Meters

- 10,000 hour quartz hour meter with automatic recycle to zero
- Displays operating time in hours and tenths, plus running indicator
- Shockproof quartz and odometer gear train mechanism totally sealed in a polyester case with gasketed glass lens
- UL Recognized and CSA Certified

Specifications

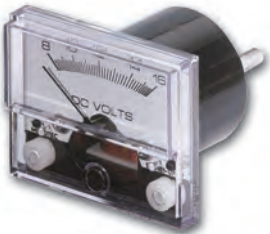
Input Voltage	12 - 60VDC
Max Input Voltage	80VDC
Power Consumption	0.05 Watts @ 12VDC
Accuracy	+/- 0.02%
Watertight per IEC 60529	IP 66 Rating
Operating Temperature	-40°F (-40°C) To 185°F (85°C)
Display Character Size	0.12" (3mm)
Electrical Termination	1/4" Quick Connect Tab
Panel Cutout	1.74" (44.19mm) X 0.925" (23.49mm)
Mounting Hardware	6-32 X 1/2" Pan Head Phillips Screw Black (197-003)

Part Number
1808-001

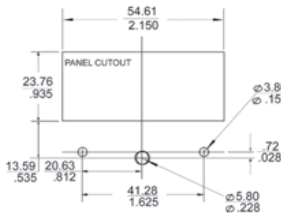


1808-001

289-053



M1

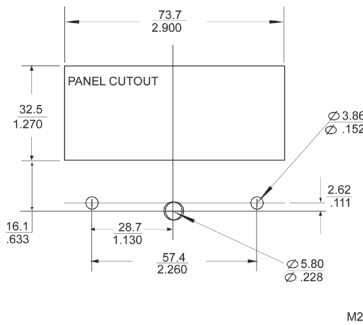


M1

289-003



M2



M2

Source Selection Rotary Switches

- Provides a convenient method of selecting from multiple power sources (ABYC E-11.5.5.6)
- Contacts break before make to maintain isolation of power sources (ABYC E-11.5.5.6.1)
- Mounts on panels up to 1/4" (6.35mm) thick
- UL Listed, CE marked, and CSA Certified
- Body made of non-corrosive materials
- I-Handle standard
- Operating Temperature: -13°F (-25°C) to 131°F (55°C)

Special Function Switches

- Three Phase AC Voltmeter/Ammeter Switch
- Enables the monitoring of three phase voltage and current by a single voltmeter and ammeter.

Part Number	AC V MAX	AC I MAX	Maximum Wire Size	Width in (mm)	Height in (mm)	Depth in (mm)
006-040	300	10	14 AWG	1.18 (30)	1.18 (30)	3.41 (86.6)

- Mounting Hardware
- 2@ M3 X 10mm 0.35 PITCH Phillips Screw
- Black (006-042B)

Standard AC Source Selector Switches

Part Number	Function		AC V MAX	AC I MAX	Maximum Wire Size	Width in (mm)	Height in (mm)	Depth in (mm)	Configuration
	Sources	Poles							
006-004	2	2	600	50	8 AWG	2.52 (64)	2.52 (64)	2.56 (65)	Source 1 / OFF / Source 2 (120V/220V)
006-012	2	3	600	100	2 AWG	3.46 (88)	3.46 (88)	4.51 (114.5)	Source 1 / OFF / Source 2 (240V)
006-008	3	4	600	65	6 AWG	2.52 (64)	2.52 (64)	5.39 (136.8)	Source 1 / Source 1+ Source 2 / Source 3 (120V/220V)
006-032	3	3	600	100	2 AWG	3.46 (88)	3.46 (88)	6.59 (167.5)	Source 1 / 2 / 3 (240V)
006-035	3	2	600	100	2 AWG	3.46 (88)	3.46 (88)	4.51 (114.5)	Source 1 / 2 / 3 (120V/220V)
006-036	4	2	600	100	2 AWG	3.46 (88)	3.46 (88)	5.55 (141)	Source 1 / 2 / 3 / 4 (120V/220V)
006-037	4	3	600	100	2 AWG	3.46 (88)	3.46 (88)	7.64 (194.1)	Source 1 / 2 / 3 / 4 (240V)

- Mounting Hardware
- 4@ 8-32 X 1" Pan Head Phillips Screw
- Black (197-126B)



006-012

Rocker Switches

- UL Recognized and CSA Certified
- Single Pole Non-Illuminated
- Snap-in Mounting
- Replacement Switches for Paneltronics' Deluxe and Premier Panels



001-329



001-251



001-330

Specifications

Maximum Contact Rating
Contacts
Terminals
Operating Temperature
Housing and Actuator
Flammability Rating
Rated IEC 60529
Panel Thickness
Recommended Panel Cut-Out

6 Amps @ 125VAC or 4 Amps @ 250VAC
Silver Plated Copper
Silver Plated Copper 1/4" (6.3mm) Quick Connects
-4°F (-20°C) To 131°F (55°C)
Black Thermoplastic
UL 94 V-2
IP40
1/8" (3.18mm)
1.188" (30.18mm) X 0.468" (11.89mm)

() Momentary

Part Number	Poles/Throw	Action	Actuator Marking
001-251	SPST	OFF/ON	None
001-199	SPST	OFF/(ON)	None
001-329	SPST	OFF/(ON)	PREHEAT
001-361	SPST	OFF/(ON)	START/STOP
001-200	SPDT	(ON)/OFF/(ON)	None
001-330	SPDT	(ON)/OFF/(ON)	START/STOP

Metal Bat Handle Toggle Switches

- Single or double pole, and maintaining or momentary configurations are available
- Rated at 10A 250VAC, 15A 125VAC and 15A 30VDC (ABYC E-11.12.1.1)
- AC units are UL Recognized for use in the USA and CSA Certified for use in Canada
- Optional silicone rubber boots provide a watertight panel seal
- 1/4" male tab terminals are standard
- Hole plugs 1/2" diameter Black (P/N 016-004) and White (P/N 016-020)

001-008



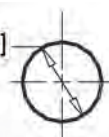
001-009



001-010



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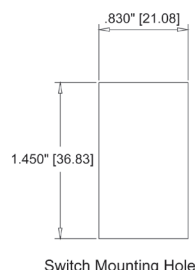


() Momentary

Part Number	Poles/Throw	Action
001-008	SPST	ON/OFF
001-009	DPST	ON/OFF
001-010	SPDT	ON/OFF/ON
001-011	DPDT	ON/OFF/ON
001-012	SPST	OFF/(ON)
001-013	SPDT	(ON)/OFF/(OFF)
001-014	DPDT	(ON)/OFF/(ON)
001-015	SP PROG	OFF/ON/ON
001-016	DPST	OFF/(ON)
001-017	SPST	ON/(OFF)
001-252	SPDT	ON/(ON)

Rocker Switches (Waterproof Contura)

- Single or double pole, and maintaining or momentary configurations are available
- Sealed IP68 rated per IEC 529
- Ignition protection construction meets requirements of UL 1500 and ISO 8846
- Black textured actuators (Hard Surface with Bumps)
- Red incandescent 12VDC 80mA Status Indicators
- Contacts are rated at 12VDC 20A, or 24VDC 15A (ABYC E-11.12.1.1)
- DC moisture resistant Per Mil-Std 202F, Method 107F
- Optional rubber gaskets provide a watertight panel seal meets IP67 (P/N 004-176)
- 1/4" male tab terminals are standard without barriers (ABYC E-11-14.5.4 Exception)
- Hole plug Black (P/N 001-295)



001-675



() Momentary

Part Number	Poles/Throw	Action	Status Indicator
001-675	SPST	ON/OFF	1 Dependent
004-246	SPST	ON/ON	None
004-178	SPST	OFF/(ON)	None
001-700	SPDT	ON/OFF/ON	2 Dependent
001-692	SPDT	ON/OFF/ON	None
004-244	SPDT	(ON)/OFF/(ON)	None
004-179	DPST	ON/ON	None
001-699	DPDT	ON/OFF/ON	2 Dependent
001-455	DPDT	ON/OFF/ON	None
004-194	DPDT	ON/OFF/(ON)	None
001-453	DPDT	ON/(OFF)/ON	None

001-204



5/32" - LED Indicators

- Ideal for use as Status or Alarm Indicators
- Small T-1 size LED's
- Nylon housing is classified UL 94 V-0
- Press to fit into 0.166" diameter panel hole
- Pigtails are tin plated, 22 gauge, stranded, copper, 7" in length stripped 1/4" (ABYC E-11.14.1.2 and Exception 5)

Part Number	Voltage	LED Color
001-156	12-14 VDC	Red
001-203	12-14 VDC	Green
001-204	12-14 VDC	Amber
111-176	24 VDC	Red
111-177	24 VDC	Green
048-021	120 VAC	Red
048-022	120 VAC	Green
048-023	120 VAC	Amber
048-024	240 VAC	Red
048-025	240 VAC	Amber
048-026	240 VAC	Green

048-004



1/4" - LED Indicators

- Ideal for use as High Visibility Status or Alarm Indicators
- Large T-1 3/4 size LED's
- Nylon housing is classified UL 94 V-0
- Press to fit into 0.25" diameter panel hole
- Pigtails are tin plated, 22 gauge, stranded, copper, 7" in length stripped 1/4" (ABYC E-11.14.1.2 and Exception 5)

Part Number	Voltage	LED Color
048-003	12-14 VDC	Red
048-004	12-14 VDC	Green
048-005	12-14 VDC	Amber
048-029	24 VDC	Amber
048-011	120 VDC	Red
048-016	120 VAC	Green
048-017	120 VAC	Amber
048-027	240 VAC	Green
048-028	240 VAC	Red

048-007



Incandescent Indicators

- Ideal for use as High Visibility Status or Alarm Indicators
- Large polycarbonate Lens
- Black bezel
- Nylon housing
- Press to fit into 0.312" diameter panel hole
- Pigtails are tin plated, 18 gauge, stranded, copper, 6" in length stripped 3/8" (ABYC E-11.14.1.2 and Exception 5)

Part Number	Voltage	LED Color
048-006	14 VDC	Red
048-007	14 VDC	Green
048-008	14 VDC	Amber

Silicone Rubber Boots

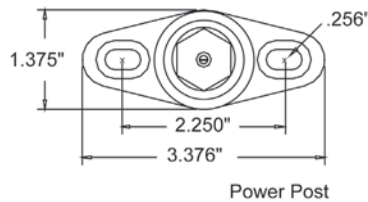
- For bat handle toggle switches, push button switches, and panel seal circuit breakers
- Provides a watertight seal between switch actuator, bushing, and panel face
- Highly flexible, tear resistant, silicone rubber construction enables an un-obstructed visual indication of switch actuator position (Except 048-034 and 048-035)
- Mounting nuts are bonded to eliminate delamination
- Thermal characteristics insure reliable performance over a wide temperature range
- Inhibits the rotation of switches or circuit breakers subjected to low frequency vibration
- Resists discoloring and cracking



Part Number	Base Thread Size	Base Shape	Base Diameter	Color	Height	Typical Application
048-001	15/35-32NS-2B	Hex	5/8"	Black	7/8"	Toggle Switch (pg.34)
048-002	15/35-32NS-2B	Round	23/32"	Black	7/8"	Toggle Switch (pg.34)
048-010	15/35-32NS-2B	Hex	5/8"	Gray	7/8"	Toggle Switch (pg.34)
048-015	1/2-32NS-2B	Round	23/32"	Black	7/8"	Waterproof Breaker (pg.29)
048-018	15/35-32NS-2B	Hex	5/8"	Black	3/8"	Toggle Switch (pg.34)
048-033	3/8-27NS-2B	Round	5/8"	Clear	5/8"	Push Button Breaker (pg.30)
048-034	3/8-27NS-2B	Round	5/8"	White	5/8"	Push Button Breaker (pg.30)
048-035	3/8-27NS-2B	Round	5/8"	Black	5/8"	Push Button Breaker (pg.30)

Power Posts

- Insulated bases are glass reinforced Nylon
- All fasteners are galvanically compatible to reduce corrosion (ABYC E-11.14.5.2)
- Studs are 300 series stainless steel
- Assembly includes stainless steel hex nut, split lockwasher, and flat washer
- Rated for 48VDC Maximum
- Current ratings are dependent on wire and terminal size utilized



Power Post

100-880



Part Number	Stud Size	Stud Length	Outside Dimension
100-880	1/4-20	1.125"	3.375" L x 1.375" W x 2.000" H
100-881	3/8-16	1"	3.375" L x 1.375" W x 1.875" H
100-884	1/2-13	1.5"	3.375" L x 1.375" W x 2.375" H

High Current Feed Through Bushings

- Passes high current carrying conductors through 1/8" (3.18mm) panel thickness
- Provides strain relief and eliminates conductor insulation chafing
- Resists up to 422 in lbs (47.7Nm) of anti-rotation torque

Specifications

Maximum Operating Voltage	48VDC
Stud Material	Brass
Insulator Bushing Material	Glass Filled Nylon
Insulator Bushing Color	Black
Panel Cutout	Use Greenlee Double D Punch #60098(1.375" X 1.125" Diameter)

111-313-TP



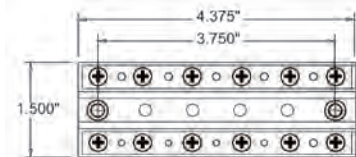
111-312-TP

Part Number	Finish	I Max	Description	Max Torque	Weight
111-312	Brass	250 Amps	3/8"-16 Stud	192 in lbs (21.7Nm)	0.22 lb (0.10kg)
111-312-TP	Tin-Plated Brass	250 Amps	3/8"-16 Stud	192 in lbs (21.7Nm)	0.22 lb (0.10kg)
111-313	Brass	400 Amps	1/2"-13 Stud	422 in lbs (47.7Nm)	0.4 lb (0.18kg)
111-313-TP	Tin-Plated Brass	400 Amps	1/2"-13 Stud	422 in lbs (47.7Nm)	0.4 lb (0.18kg)

Dual Bus Common Bus (tin plated brass)

- Maximum continuous current rating is 60DCA
- Maximum voltage rating is 48VDC
- All fasteners and the bus are galvanically compatible to reduce corrosion (ABYC E-11.14.5.2)
- Bus material is 0.360" x 0.090" tin plated brass
- Back material is black Nylon

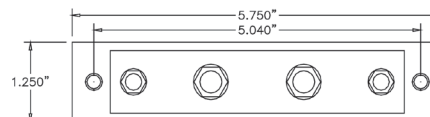
111-283-90



Part Number	Description	Outside Dimension
111-283-90	12x 8-32 x 1/4" tin plated brass combo head screws	4.375" L x 1.500" W x 0.430" H

Bus Bar (tin plated copper)

- Maximum continuous current rating is 445DCA
- Maximum voltage rating is 48VDC
- All fasteners and the bus are galvanically compatible to reduce corrosion (ABYC E-11.14.5.2)
- Two 1/4-20 stainless steel studs with four nickel plated brass hex nuts and two stainless steel split lockwashers
- Bus material is 1" x 1/4" copper tin plated
- Back material is black Nylon



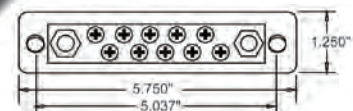
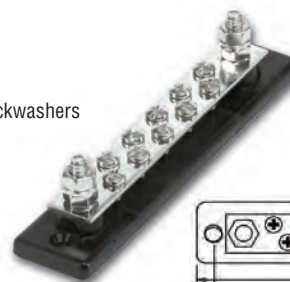
100-887

Part Number	Description	Outside Dimension
100-875	2 x 3/8-16 stainless steel studs, 4 x hex nuts, 2 x lockwashers	5.750" L x 1.250" W x 1.875" H
100-877	4 x 3/8-16 stainless steel studs, 8 x hex nuts, 2 x lockwashers	8.750" L x 1.250" W x 1.875" H

Bus Bars (nickel plated brass)

- Maximum voltage rating is 48VDC
- All fasteners and the bus are galvanically compatible to reduce corrosion (ABYC E-11.14.5.2)
- Bus material is 3/32" thick corrosion resistant nickel plated brass
- Two 1/4-20 nickel plated brass studs with four nickel plated brass hex nuts and two stainless steel split lockwashers
- Back material is black Nylon

048-036



Part Number	Amperage	Description	Outside Dimension
048-036	100 DCA	10 x 10-24 nickel plate brass combo head screws	5.750" L x 1.250" W x 1.344" H
048-037	120 DCA	12 x 10-24 nickel plate brass combo head screws	5.750" L x 1.250" W x 1.344" H

Bus Bar with Termination Holes Plus Power Feeder Hole

- Gang Up to 16 Single Pole A, B, or C Frame Magnetic Circuit Breakers plus Power Feeder Connection

Specifications

Material Solid 1/2" (12.7 mm) x 1/8" (3.2mm) Tin Plated Copper
Terminations Holes 7/32" (5.6mm) Diameter spaced on 3/4" (19mm) Centers
1@ 1/4" (6.35mm) Diameter Power Feeder Connection Hole
Ampacity 100 Amps Max



Part Number	Total Length in Inches	Total Number of Holes	Number of 1/4" Diameter Holes	Number of 7/32" Diameter Holes
100-153-TP	1.625	3	1	2
100-154-TP	2.375	4	1	3
100-155-TP	3.125	5	1	4
100-156-TP	3.875	6	1	5
100-157-TP	4.625	7	1	6
100-158-TP	5.375	8	1	7
100-159-TP	6.125	9	1	8
100-160-TP	6.875	10	1	9
100-161-TP	7.625	11	1	10
100-162-TP	8.375	12	1	11
100-163-TP	9.125	13	1	12
100-164-TP	9.875	14	1	13

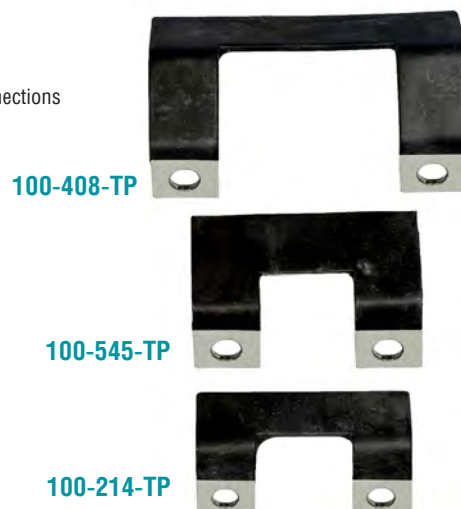
Main Circuit Breaker Bus Bar Jumpers

- Insulated, tin plated, solid copper, bus bar jumpers facilitate hot and neutral main circuit breaker load connections
- Reduces weight, saves space, and minimizes assembly time
- For se with A, B, or C frame magnetic circuit breakers mounted on 3/4" (19mm) centers

Specifications

Material Tin Plated Copper
Insulation Rubber

Part Number	Max Amp	Spacing (Center to Center)	Jumper Type	Circuit Breaker Frame Size
100-214-TP	100 Amps	1.5" (38 mm)	1 place	A & B
100-545-TP	150 Amps	1.5" (38 mm)	1 place	A, B & C
100-408-TP	150 Amps	2.25" (57 mm)	2 place	A, B & C



Heavy Duty Remote Latching Battery Switches

- Battery switch meets the requirements Of ABYC E-11.6.1.2.1
- Eliminate long runs of unprotected Cranking Motor Cable (ABYC E-11.10.1.1.1 Exception 1)
- Install in close proximity to batteries (ABYC E-11.6.1.2.2)
- External Ignition Protection of Marine Devices (ABYC E-11.5.3.1 AND E-11.4.15 Note 7), Meets SAE J1171
- Conveniently located, low current, DPDT, Momentary, Control Switch opens and closes Latching Switch Contacts (P/N 001-453)
- Patented Magnetic Latching Mechanism draws zero current in open or closed position
- Operating Temperature from -40°F (-40°C) to 185°F (85°C)
- Replacement switches for Paneltronics battery management enclosures

Part Number >	570-012	139-032
Intermittent DC Rating (Up to 30 Seconds)	500 Amps	1,200 Amps
Continuous DC Rating	100 Amps	200 Amps
Nominal Actuation Volts	12 VDC	12 VDC
Minimum Actuation Volts	10.5 VDC	10.5 VDC
Actuation Current	3.0 Amps	5.6 Amps
Actuation Time Max	0.2 Sec	0.2 Sec
Switching Cycles	10,000	10,000
Coil Terminal	10-32	10-32
Torque	30 in lbs.	30 in lbs.
Switch Terminal	5/16-24	1/2-13
Torque	108 in lbs.	144 in lbs.
MOV P/N	N/A	139-034
Weight	0.8 lbs	4.4. lbs
Length	3.6 in	3.7 in
Depth	2.8 in	4.1 in
Height	3.6 in	7.1 in
Coil Fuses	5 Amp	7.5 Amp



570-012



139-032

Highlights from - A Step-by-Step Approach to the Design of an AC or DC Marine Electrical System

One of the questions most frequently asked by boat owners during visits to our boat show booths over the years is “How do I go about designing a safe, compliant marine AC or DC electrical system that will meet all of my present and future power requirements?” Unfortunately, there is no simple answer to this question. However, after 25 years of listening attentively to customers, we have developed the following useful step-by-step approach to marine AC and DC electrical system design.

The marine industry is fortunate to have a boating standards organization. The American Boat and Yacht Council or ABYC is a consortium of boaters, marine surveyors, boat manufacturers, and the U.S. Coast Guard, working together to establish marine safety standards and recommended practices. Paneltronics is proud to have direct involvement in ABYC electrical standards development. Since 1988, we have actively participated on the ABYC Electrical Project Technical Committee. We design and manufacture our products to comply with ABYC standards, and we encourage you, as a potential customer, to do the same. Since we will be referring to ABYC Standard E-11, **AC and DC Electrical Systems on Boats* throughout this text, you should obtain a copy.

ELEMENTS OF A SAFE MARINE ELECTRICAL SYSTEM

Step 1 - Safety First:

Although every Paneltronics panel is completely pre-wired for ease of installation, we recommend that if you are not comfortable working with electricity and you want to avoid possible exposure to shock or electrocution, hire a qualified and experienced marine electrician. An ABYC Certified Marine Technician would be a great place to start.

A safety issue that must not be overlooked is fire. In an article “Why Boats Catch Fire,” published in the July 2003 issue of *Seaworthy* magazine, a Boat U.S. Marine Insurance claim study revealed that 55% of all boat fires start onboard vessels in the AC or DC wire harness, or in related appliances. Once ignited, electrical fires are difficult to extinguish unless the fault can be isolated from the power source, since heat generated from shorted wiring can re-ignite a totally extinguished fire. To minimize the possibility of damage, injury, or loss of life caused by boat electrical fires, you must design your electrical system to both isolate and limit the current in each appliance circuit. Obviously, the related costs required to isolate individual circuits in marine electrical systems will be greater than those incurred for similar residential wiring. The justification for this additional margin of safety on boats is that an open window or door can provide an easy escape from a burning house, but walking away from a burning boat may not be an option. By isolating individual circuits, there is a greater likelihood that critical electrical appliances will function during a fire emergency.

Overcurrent Protection:

It is our view that the magnetic circuit breaker is presently the most reliable and cost effective device for use in the marine environment to isolate and limit the current in an individual appliance circuit. Although it is common practice to use single rating circuit breakers (i.e. 15 Amps) for all loads, this may, at best, provide only conductor (wire) protection. Proper circuit breaker selection and sizing is critical. By selecting the proper amperage rating for each load (ABYC E-11.10.2.2), both the conductor and the individual appliance connected in the circuit will be isolated and current limited.

CIRCUIT BREAKER SELECTION CHART

1. CIRCUIT BREAKER FULL LOAD AMP RATING:

Circuit breaker must be rated not to exceed the current rating of the load (F.L. AMPS), and must protect the smallest conductor in that circuit (ABYC E-11.10.2.3).

2. CIRCUIT BREAKER VOLTAGE RATING:

Circuit breakers must be rated for a maximum voltage (MAX V) not less than the voltage of the power source AC or DC (ABYC E-11.10.1.5.2 and ABYC E- 11.10.2.4).

3. CIRCUIT BREAKER FREQUENCY:

Circuit breakers must be rated AC - (50/60 HERTZ), DC, or AC/DC - (DC/60Hz) (ABYC E- 11.5.2.2.7).

4. CIRCUIT BREAKER TRIP DELAY:

Circuit breaker must have a (DELAY) rating that is compatible with the power source AC or DC and tolerant to the inrush characteristics of the load (motor, lamp, resistive, inductive).

5. CIRCUIT BREAKER TRIP AMPS:

Circuit breaker must have a (TRIP AMPS) rating that indicates the current level where the breaker will trip.

6. CIRCUIT BREAKER INTERRUPTING CAPACITY:

Circuit breakers must have an ampere interrupting capacity (AIC) that is compliant with ABYC E-11.10.1.5.5 and ABYC E-11.10.2.1.2.

7. CIRCUIT BREAKER IGNITION PROTECTION LABEL:

Circuit breakers installed in fume areas must be tested and labeled “IGNITION PROTECTED” (ABYC E-11.5.2.2.8) and (ABYC E- 11.10.1.5.1)

Note: UL 1500 tested units will be marked with “IGNITION PROTECTED” and units tested to SAE J1171 will be marked “SAE J1171”. ISO 8846 is not presently an approved ABYC rating.

Step 2 - Load Calculation:

Before considering battery ratings, generator outputs, or wire gauges, you should first establish the total AC and/or DC requirements for your electrical system. For DC systems, refer to ABYC E-11.8.1.1 and complete Table II. For AC systems, see ABYC E-11.8.2 and complete all the sections through E-11.8.2.2.5. Remember to plan for future expansion. The addition of spare circuits now will save you considerable time and money in the future. Once you have determined your power requirements, you can then consider power source options.

Table II - Electrical Load Requirement Worksheet

Column A		Column B	
Load	Amperes	Load	Amperes
Navigation Lights		Cigarette Lighter	
Bilge Blower(s)		Cabin Lighting	
Bilge Pump(s)		Horn	
Wiper(s)		Additional Electronic Equipment	
Largest Radio (Transmit Mode)		Trim Tabs	
Depth Sounder		Power Trim	
Radar		Toilets	
Searchlight		Anchor Windlass	
Instrument(s)		Winches	
Alarm System (standby mode)		Fresh Water Pump(s)	
Refrigerator			
Engine Electronics			
Total Column A		Total Column B	
		10% Column B	
		Largest Item in Column B	

Total Load Required:

Total Column A: _____ Total Column B: _____

(The largest of 10% of Column B or the Largest Item)

Total Load: _____

Step 3 - DC System:

The most widely used DC power source is the battery. Other sources of DC power include solar panels, wind generators, and alternators, but for the purpose of this article we will only concentrate on batteries. The most popular DC voltage rating found on vessels is 12VDC, although 24VDC and 32VDC are also popular ratings on larger boats. Paneltronics offers DC panels in 12VDC, 24VDC, and 32VDC.

Engine Starting Batteries:

Engine cranking batteries are similar in construction and function to automotive batteries, but the materials used in automotive batteries

will limit their longevity in a marine environment. Engine cranking batteries are designed to deliver a short burst of power, followed by a quick recharge. The Marine Engine General Data Sheet supplied by the engine manufacturer will specify the minimum Cold Cranking Ampere (CCA) battery rating required to ensure a reliable engine start (see ABYC E-11.4.3 DEFINITIONS Battery cold cranking performance and ABYC E-11.6.1.1.1).

House Batteries:

Unlike cranking batteries, house batteries are constructed with thick lead plates designed to be discharged over a long period of time. They may be discharged to about 50% of their capacity, and then recharged. These deep cycle batteries, so called because of this characteristic, are the batteries of choice for running appliances during long cruises. To select the proper rating for your deep cycle batteries, first refer to Table II in Step 2, and expand the data by multiplying each appliance load current (in amps) by the number of hours you plan to operate the appliance (in a 24 hour period). The sum of these amp-hour requirements represents Part 1 of the total DC Daily Load. Part 2 is calculated if an optional inverter is installed on your AC system, and is explained in the inverter section later in this article.

With the exception of cranking motor circuits, please note that overcurrent protection is required in all conductors connected directly to the batteries. (See ABYC E-11.10.1.1.1 and FIGURE 15 for placement requirements). It is important to remember that overcurrent devices placed in fume areas must also be ignition protected (ABYC E-11.10.1.5.1).

Step 4 - AC System:

AC represents Alternating Current. In marine electrical systems, the most common sources for alternating current (AC) are shore power from utility company generators, onboard generators, and inverters.

Shore Power:

In the United States, the 3 most readily available marine shore cord configurations are 120VAC- 30 Amps, 120VAC- 50 Amps, and 240VAC- 50 Amps (ABYC E-11.6.3.1.1 through E-11.6.3.2.3). AC shore cord systems rated at 220VAC- 50Hz are commonly used in Europe and other parts of the world. Paneltronics offers panels for all these electrical systems, including panels with circuit breakers having the required European CE approval. When selecting shore power cords, check the quantity and ampacity of the inlets available on the dockside stanchions where your vessel will be docked. Then evaluate the physical weight and cost of each available shore power cord set that will power the maximum number of AC loads calculated in Step 2 above (ABYC E-11.8.2.1 through ABYC E-11.8.2.1.2).

Shore Power (Continued):

Leakage Currents caused by defective wiring or defective electric appliance onboard a vessel present a significant shock hazard to personnel. In order to significantly reduce the risk of electric shock hazard to personnel in the water near a vessel, boarding a vessel, or onboard a vessel that is connected to shore power, effective July 2009 each 120VAC 60Hz or 240VAC 60Hz shore power cord set, or feed, must be protected by an Equipment Leakage Circuit Interrupter (ELCI) (see ABYC E-11.11.1). The ELCI may be a stand alone device or part of the Main Shore Power Disconnect Circuit Breaker located on the AC distribution panel.

If the distance from the shore power inlet mounted on the vessel is greater than 10 feet, measured along the conductor from the location of the Main Shore Power Disconnect Circuit Breaker, an additional overcurrent protection device and the ELCI is required within 10 feet of the power inlet (ABYC E-11.10.2.8.3 through E-11.10.2.8.3.1). ELCI devices installed in fume areas must be mounted in enclosures that are "Ignition Protected" (ABYC E-11.5.3.1) and ABYC E-11.4.15). In addition, ELCI devices mounted in locations subject to rain, spray, or splash must be weather proof (ABYC E-11.4.31).

Another dangerous condition that can create a shock hazard for personnel in the water near a vessel, boarding a vessel, or onboard a vessel is Reverse Polarity. This is the unintentional backward connection of the hot (ungrounded/black), the neutral (grounded/white), or grounding (grounded/green) AC shore conductors. ABYC requires that a visible indicator of reverse polarity be present near the AC shore main circuit breaker (ABYC E-11.6.3.3.1). As an additional safety feature, Paneltronics provides an AC Shore Main Circuit Breaker that includes a Reverse Polarity trip coil. This "smart" circuit breaker trips automatically upon sensing a potentially dangerous reverse polarity condition.

It is our opinion that the installation of Isolation Transformers should be considered for all shore power circuits (ABYC E-11.7.1). They are designed to prevent galvanic corrosion and the hazard of electric shock caused by reverse polarity in the dockside stanchion. Personnel who are boarding, onboard, or swimming in close proximity to an unprotected vessel connected to an improperly wired dockside stanchion are exposed to potentially lethal electric shocks. Properly installed, isolation transformers magnetically couple a vessel's AC system to shore, and at the same time, they isolate shore ground from the floating grounded neutral AC system onboard the vessel (ABYC E-11.17.4) and (ABYC E-11.17.5).

Note: Isolation Transformers should be mounted on a non-conductive surface. Mounting hardware should not come in contact with any vessel metallic structural members. Finally, to insure that total isolation from shore ground is maintained, ground connections from telephone lines and cable TV must also be isolated by transformers.

AC Generators:

Generators are machines for generating AC electricity. To determine the size of the proper AC generator required for your application, multiply the total AC load calculated in amperes in Step 2 above (see ABYC E-11.8.2.2.5) by the AC system voltage, and divide by 1000. This result is the minimum KVA generator output rating required for a single-phase system (ABYC E-11.8.2.1.3).

Note: The AC system onboard vessel is a polarized grounded neutral system (ABYC E-11.5.5.1), (ABYC E-11.5.5.2), and (ABYC E-11.5.3.2.1); therefore, the generator neutral must be grounded at the generator (ABYC E-11.5.5.2.3).

Observance of the 7/40-inch rule for the placement of overcurrent protection devices may require their placement within a gasoline fume area near engines or generators (ABYC E-11.10.2.8.1), (E-11.10.2.8.4), and (ABYC E-11.4.15 DEFINITIONS Ignition protection). These overcurrent protection devices must be ignition protected. Paneltronics manufacturers circuit breaker panels with ignition protected (UL 1500) two-pole C-Frame circuit breakers that will bring your generator installation into compliance (ABYC E-11.10.2.7.1).

Inverters:

Inverters are devices that convert DC battery power to Alternating Current (AC) for powering household appliances. These devices are very popular on smaller boats, or as back-up to generators. Larger inverters may be used in place of generators. Inverter advantages include quiet, pollution free AC power on demand. However, larger inverters require larger battery banks to sustain their operation.

Note: Inverters are a major consumer of stored DC battery power. Consider this when calculating your total battery requirements. To determine the battery requirements for an inverter, use this simple calculation. Multiply each AC appliance power rating in watts by the number of hours you plan to operate the device for a 24 hour period (watt-hours); then add the sum of all AC appliances powered by the inverter and divide by the DC system voltage (12, 24, or 32VDC). This total should be added to Part 1 of your previous DC calculations for Daily Load. Finally, multiply 4 (diversity factor) to obtain the total Amp-hour rating of the required battery bank.

Single Power Source Selection:

Cogeneration, powering a load by multiple power sources at the same time, does not presently meet ABYC standards (ABYC E-11.8.2.1.4). Therefore, single source selection that isolates all power sources must be assured with the use of a break before make switch or lockout device (ABYC E-11.5.5.6.1). Paneltronics panels offer these for safe selection of up to 6 power sources (i.e. shore power, generators, or inverters) (ABYC E-11.5.5.7).

Wire Sizing:

The construction of insulated conductors (wire) used in marine AC and DC systems is very different. Conductors approved for AC use may also be used for DC, but the converse is not true. The insulation temperature rating of most marine wire available today, AC or DC, is 105°C. By selecting 105°C rated insulated wire apposed to 75°C rated wire, higher currents can be transmitted safely using thinner, lighter wire. The markings on individual marine wire conductors must include type/style, voltage rating, gauge, and temperature rating (ABYC E-11.14.1.1). The minimum wire size permitted for marine use is 16 American Wire Gauge (AWG); however, there are several exceptions (see ABYC E-11.14.1.2). The possibility of strain hardening caused by low frequency vibration present on vessels mandates the exclusive use of stranded copper wire (ABYC E-11.14.2.4. and ABYC E-11.14.3.6). Tinned, stranded copper wire is the preferred wire conductor for use in marine electrical systems because it offers maximum protection against corrosion. At junctions, this wire is galvanically compatible with tin plated terminals. This compatibility helps prevent high resistance connections, overheated junctions, and fires.

DC Wire:

DC wire must have a minimum 50-volt insulation rating (ABYC E-11.14.2.1), and this insulation must meet the temperature rating requirements of the Society of Automotive Engineers (SAE) J378 and SAE J1127, or J1128 (ABYC E-14.2.1.1 through ABYC E-11.14.2.1.1.4). Wire types that conform to these requirements, such as GPT (PVC marine engine and component wire) and Boat Cable (UL 1426), are readily available. To calculate conductor size, see ABYC E-11.14.2.2 through ABYC E-11.14.2.7.1).

AC Wire:

AC wire must have a minimum 600-volt insulation rating (ABYC E-11.14.3.1), and flexible cords must have a minimum 300-volt insulation rating (ABYC E-11.14.3.2). This insulation must also meet the flame retardant and moisture resistant requirements of UL 83 (ABYC E-11.14.3.4). Wire types that conform to these requirements, such as AWM 1230, AWM 1231, and Boat Cable (UL 1426), are also readily available. To calculate conductor size, see ABYC E-11 AP TABLE 1 and ABYC E-11.14.3.5 through ABYC E-11.14.3.7.2.

AC and DC Power Distribution Panels:

The primary considerations in the selection of an AC or DC power distribution panel are DESIGN, QUALITY, FUNCTION, and STYLE. Although many panels appear to be similar, a close inspection may show practical and functional differences.

Design Elements to be considered:

- Custom Configurability - Does the panel offer you the option to select the appropriate circuit breaker amperages to isolate and limit loads?
- Physical size - Does the panel fit in the space that you have available?
- Modularity - Does the panel offer you horizontal or vertical layout options?
- Flexibility - Does the panel offer you an option for future expansion?
- Ergonomics - Does the panel have a user-friendly layout?

Functional Elements to be considered:

- LED Indicator Lights - Color-coded LED's can be very functional.
- Backlighting - Meters and Labels should be easily read in low light conditions.
- Function Labels - Labels should be easy to add and change.
- Meters - Meters should be accurate with easy to read scales or digital displays.

Quality features to look for:

- Tinned stranded copper wire rated at 105°C
- Bus Bars
Properly rated for total ampacity
Solid Copper/Tin Plated
Conveniently Panel Mounted
- Panel should be made of a corrosion resistant material such as aluminum
- Durable surface finish such as polyurethane or powder coat finish
- Quality Components
- Superior Workmanship

By now you should have determined the total number of circuit breakers, the ampacity for each load, and all of your power inputs. In addition, you should have considered the design, function and quality elements that you want to incorporate in your panel. By coupling this information with the physical size available for your installation, you should be able to select the proper AC and/or DC power distribution panel. Paneltronics offers you over 180 modular panel designs. Each model is pre-wired for a simple installation. Factory trained technicians are available to help you design a safe, compliant marine AC or DC electrical panel system that will meet all of your present and future power requirements.

ABYC: American Boat and Yacht Council, a voluntary standards creating body for the marine industry responsible for Standards and Recommended Practices.

Ampacity: The current carrying capacity of a conductor or device.

Bus Bar: A rectangular conducting bar, usually solid copper or brass, that carries currents to several electric circuits.

CE (*Conformité Européenne*): The CE marking is a conformity marking consisting of the letters “CE”. The CE marking is applied to products regulated by certain European health, safety, and environmental protection legislation. The CE marking is obligatory for products it applies to. The manufacturer affixes the marking certifying that the product conforms to applicable regulations, in order to be allowed to sell the product in the European market.

CFR (Code of Federal Regulations): The written regulations of the United States Federal Government.

Circuit: A closed path of electrically, or electro-magnetically connected, components or devices that is capable of current flow. Typically consisting of loads, sources, conductors, and circuit protection (circuit breakers and fuses). For example: A battery, fuse, and bilge pump connected together with wire are a circuit. The path must be continuous and closed.

Circuit Breaker: An automatic switch that stops the flow of current in a circuit at a predetermined level without destroying itself.

Conductor: That part of an electrical circuit whose resistance relative to the balance of the circuit is zero. For example, in a circuit consisting of a light bulb and a battery, connected together with wire, the wire is referred to as the conductor.

Current Rating: The maximum current in amperes that a device will carry continuously under defined conditions without exceeding specified performance limits.

Current Transformer: The “CT”, as current transformers are commonly referred to, is used by AC ammeters to “sense” current flow in a wire in an AC circuit. It is a toroidal coil of wire through which a wire whose current we wish to measure is passed. It is normally encapsulated and looks like a “doughnut”, which is how electricians commonly refer to it. The doughnut has two wires coming out of it, which are connected to the AC ammeter. As current flows in the AC wire we wish to measure, it induces a current flow in the current transformer. The magnitude of the current varies directly with the current flowing in the AC wire. Current transformers are rated by the number of maximum amps that can flow in the measured wire and the current generated, by the CT, at that current flow. For example: A 50:5 CT is rated for 50 amps flowing in the measured wire, and it generates 5 amps of current as a consequence.

DC Grounding Conductor: A normally non-current carrying conductor used to connect metallic non-current carrying parts of direct

current devices to the engine negative terminal, or its bus, for the purpose of minimizing stray current corrosion.

Deep-Cycle Batteries: Batteries with thick plates to allow for reserve energy to be stored within the battery plate and released during slow discharge for prolonged periods. The high-density active material remains within the batteries’ plate/grid structure longer, resisting the normal degradation found in cycling conditions. Deep cycle batteries are typically used where the battery is discharged to a great extent and then recharged.

Digital Meter: A digital meter is one that displays values as numerical values rather than as the position of a meter on a relative scale.

Direct Current (DC): An electric current that always flows in the same direction. The magnitude may vary but the current direction is always the same. Commonly referred to as DC. Examples of direct current sources are batteries, fuel cells, and photovoltaic cells. DC sources such as battery chargers and alternators actually use rectified AC current as the source.

Double Pole: A switch, circuit breaker, or relay that makes or breaks two isolated circuits at the same time.

Engine Negative Terminal: The point at which the engine negative, generally the engine block, is connected to the negative of the battery.

Equipment Leakage Circuit Interrupter (ELCI): A residual current device which detects equipment ground fault leakage current and disconnects in 120VAC 60Hz systems the hot (ungrounded / black) and the neutral (grounded / white) current carrying conductors at a preset threshold. In a 240VAC 60Hz system, the ELCI disconnects both (ungrounded / black) and the (ungrounded / red) current carrying conductors at a preset trip threshold. The ELCI device meets the requirements of UL 1053 and UL 943 except that the maximum trip level is 30mA and the maximum trip time is 100ms.

Fault: A defect in the normal circuit configuration, usually due to unintentional grounding. Commonly referred to as a short circuit.

Frequency: For an oscillating or varying current, frequency is the number of complete cycles per second in alternating current direction. The standard unit of frequency is the hertz, abbreviated Hz. If a current completes one cycle per second, then the frequency is 1 Hz; 60 cycles per second equals 60 Hz (the standard alternating-current utility frequency).

Fuse: A conductive device designed to melt when amperage flow through it exceeds a rated amount

Galvanic Corrosion: Corrosion resulting from dissimilar electrically connected metals being immersed in an electrolyte.

Galvanic Isolator: A device installed in series with the green grounding conductor of the AC shore power cable designed to block galvanic DC current flow but permit the passage of AC if required.

Generator: A rotating machine capable of generating electrical power. In the narrow definition generator refers to a DC machine and alternator refers to an AC machine. However, in common use the term generator is used to refer to AC machines as well.

GFCI (Grounded-Fault Circuit Interrupter): A safety device that breaks an AC circuit anytime a short to ground occurs; also known as a residual current circuit breaker (RCCB).

Hertz: Hertz is a unit of frequency of one cycle per second. It replaces the earlier term of “cycle per second (cps).” The abbreviation for Hertz is Hz.

Hot: Hot usually refers to the ungrounded current carrying conductors in an AC system. These would typically have a voltage of 120V or 240V in the United States. The term Hot is also used to describe a circuit that is energized, and has a potential greater than ground.

Ignition Protected: A critical designation for any electrical device that is to be used in an area where gasoline, battery, or CNG or LPG vapors may accumulate. The ABYC describes ignition protection as: “the design and construction of a device such that under design operating conditions: it will not ignite a flammable hydrocarbon mixture surrounding the device when an ignition source causes an internal explosion, or it is capable of releasing sufficient electrical or thermal energy to ignite a hydrocarbon mixture, or the source of the ignition is hermetically sealed.” It is important to note that unlike most of the ABYC standards ignition-protection requirements are also mandated by USCG regulations, and compliance is not voluntary, but mandatory.

Interrupt Capacity (AIC): Maximum short-circuit current at rated voltage which protective device is required to interrupt under operating duty specified and with normal frequency recovery voltage not less than rated voltage.

Inverter: A device used to change stored DC from a battery source to AC on demand to power appliances.

Isolation Transformer: An AC device consisting of an isolated primary coil, connected to shore power; an isolated copper shield, connected to the shore grounding conductor; and an isolated secondary coil, connected to the onboard bus and magnetically coupled to the primary coil. See ABYC E-11.7.1.

Magnetic Circuit Breaker: Breaker that uses the magnetic field generated by a current-carrying coil to open the circuit.

Main: Refers to the main circuit breaker or bus in a power distribution system. This is the input power source for the system

NEMA: National Electrical Manufacturers Association

Over Current Protection Device: A device, such as a fuse or circuit breaker, designed to interrupt the circuit when the current flow exceeds a predetermined value.

Polarity: Refers to the electrical charge, which may be positive or negative. It also refers to the positive and negative terminals of a battery or load in a DC system. In AC systems it refers to the connections made to the hot and neutral. There is often a reverse polarity light that indicates if the neutral and hot are reversed.

Polarized System: An electrical system in which the positive and negative or the hot and neutral must be connected in a particular way and cannot be switched. Sometimes there are mechanical preventions to insure the correct polarity. For example, in an AC plug the physical configuration of the plug and receptacle force a polarized connection.

Reverse Polarity: The unintentional backward connection of the hot (ungrounded / black), the neutral (grounded / white), or grounding (grounded / green) AC shore conductors. This condition can create a shock hazard for personnel in the water near a vessel, boarding a vessel, or onboard a vessel.

Tin Plated: A plating of the element tin, which prevents corrosion. Commonly used to plate copper components such as a power bus.

Trip-free Circuit Breaker: A breaker designed in such a way that the resetting means cannot be manually held in to override the current-interrupting mechanism.

UL Listed: Indicates that a device or component has met certain specifications as set forth by Underwriters Laboratory. Further, it means that the device or component has been tested for conformance and ‘listed’ with UL so it can use the UL logo and claim conformance to the specification.

Volt (Voltage): The unit of electric potential and electromotive force, equal to the difference of electric potential between two points on a conducting wire carrying a constant current of one ampere when the power dissipated between the points is one watt.

Volt-Amps: The product of volts and amps, which is watts in a DC system and the apparent power in an AC system.

Voltage Drop: The loss of voltage as it works its way through a circuit. Excessive voltage drop indicates unwanted resistance in circuit or circuit component.

Wire Amperage Rating: The current a conductor can carry under a set of specified conditions such as open air, in an enclosure, and at a specified temperature.

Wire Sizing: A process to determine the appropriate conductor gauge, stranding, and insulation temperature rating based on length of run (voltage drop), circuit ampacity, ambient temperature, and bundling.

Email Address: _____ Type of Business: _____

Notes:

Part Number:

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Enter Function Labels and Circuit Breaker Ratings Below. Please Type or Print Clearly.

Company Name

POSITION	5 Amp	10 Amp	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp	50 Amp	Plug	Other
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Three Year Limited Warranty

Paneltronics, Inc., warrants its products to be free from defects in materials and workmanship under normal use for a period of three years from the date of purchase. In the event a defect in any part or parts appears within the warranty period, the product must be returned to Paneltronics, Inc. for replacement, repair, or refund. If Paneltronics, Inc. determines that repair cannot be made within a reasonable period of time, it may at its sole discretion, elect to replace the product or refund the purchase price. Any charges for transportation or installation of the original warranted item or its replacement are not covered by this limited warranty. No other person or company is authorized to make repairs under this warranty. Neither does this warranty cover (A) any incidental or consequential expenses to the user resulting from non-function or malfunction of the product or (B) any products which after delivery have been installed, tested, repaired, or altered other than according to Paneltronics' instructions or (C) if, in Paneltronics' reasonable opinion, the item or product has sustained damage by faulty installation or repair, misuse, misapplication, accident or any external force.

Maximum liability shall in any case not exceed the purchase price for the product claimed to be defective.

Paneltronics, Inc. makes no warranty of any sort, expressed or implied, with respect to any product, except as above. Any warranties are limited to the duration of this warranty, and Paneltronics shall not be liable with respect to them or, where allowed by law, for any incidental or consequential damages resulting from defects.

Proof of Purchase is required for warranty service.

Cancellations

If your order is in production and you must cancel the order, a minimum of 20% will be charged, plus any additional costs, which Paneltronics has incurred, depending on how far the order has progressed. Also, if you have changes to be made, and your order has passed the point where the changes were to have taken place, there will be a charge for work already done. Please note: It is not always possible to make changes on an order. Contact your Customer Service Representative to check on the status of the order before requesting a change to be made.

Claims

All claims must be made within 15 days of the invoice date.

Return Goods Policy

No returns are permitted without a Return Goods Authorization number issued by Paneltronics. This number must appear on the outside of the package and on the packing slip. Goods must be returned in proper protective packaging for repair, replacement or credit, and are subject to all the terms, conditions and warranty policies of Paneltronics. Credit will only be issued to Paneltronics' original customer. All goods returned for credit are subject to a minimum restocking charge of 20%. Goods may not be returned after 60 days from the invoice date. Custom panels are not returnable for credit. All returned goods must be sent with freight prepaid.

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Select from over 3000 Circuit Labels to create your own customized panel.

Labels are black polycarbonate, with translucent white lettering. The white portion is lighted when the backlighting is on.

OUTLETS



ELECTRONICS

110 VAC/PHONE SYSTEM	AC OUTLETS 8	AIR COND COCKPIT	ANCHOR/ RUNNING LTS	BATTERY CHRG 24 VOLT	BILGE PUMPS
115 V BLOWER	AC OUTLETS PORT	AIR COND COMP 2	ANTENNA	BATTERY CHRG 32 VOLT	BIMINI LIFT
12 V BATTERIES	AC OUTLETS STBD	AIR COND CREW	ANTENNA BOOSTER	BATTERY COMP BLOWER	BINNACLE
12 V WATER MAKER	AC R EXT	AIR COND CREW AFT	ANTENNA LIGHTS	BATTERY COMPARTMENT	BLACK WATER AFT
12 VDC	AC R INT	AIR COND CREW FWD	ANTI-ROLLING	BATTERY COND HOUSE	BLACK WATER FWD
12 VDC C/ P OUTLET PORT	AC REFRIGERATION	AIR COND CREW LOUNGE	APPLIANCES	BATTERY COND PORT	BLANK LABEL
12 VDC C/ P OUTLET STBD	AC REFRIGERATOR	AIR COND DINING AREA	ARCH	BATTERY COND STDB	BLENDER
12 VDC INVERTER	AC SALON	AIR COND ENG ROOM	ARCH LIGHT AFT	BATTERY CONNECTION	BLOCK HEATER
12 VDC POWER OUTLETS	AC SEAWATER PUMP	AIR COND FLYBRIDGE	ARCH LIGHT FWD	BATTERY MONITOR	BLOCK HEATER PORT
12 VDC STEREO	AC OUTLETS EXT	AIR COND FRONT	ARCH LIGHTS	BATTERY PARALLEL	BLOCK HEATER STBD
12 VDC STEREO	AC/DC PANEL	AIR COND FWD	ATMOSPHERIC MONITORS	BATTERY TEST	BLOWER
12 VDC STEREO AMPLIFIER	AC/DC PANEL LIGHTS	AIR COND GALLEY	AUDIO ENHANCEMENT	BATTERY TEST 1	BLOWER (FANS) PORT
12 VDC STEREO AMPLIFIER 1	ACC	AIR COND GUEST	AUDIO PANEL EXT NO. 3	BATTERY TEST 2	BLOWER (FANS) STBD
12 VDC STEREO AMPLIFIER 2	ACC 1	AIR COND GUEST PORT	AUDIO PANEL EXT NO. 4	BATTERY TEST 3	BLOWER AFT
12 VOLT BATTERIES	ACC 2	AIR COND GUEST STBD	AUDIO PANEL NO. 1	BAY HEATER	BLOWER PORT
12 VOLT CONVERTER	ACC 3	AIR COND HELM	AUDIO PANEL NO. 2	BEACON	BLOWER PORT ENGINE
12 VOLT DC MAIN	ACC 4	AIR COND ID	AUDIO PLAYBACK	BED LIFT	BLOWER POWER
12 VOLT DC MAIN	ACC 5	AIR COND LOUNGE	AUDIO PLAYBACK SYS	BEDROOM HEATER	BLOWER STBD
12 VOLT DC OUTLETS	ACC 6	AIR COND MAIN	AUDIO RECEIVERS	BEDROOM LIGHTS	BLOWERS
12 VOLT OUTLET	ACC 7	AIR COND MAIN DECK	AUDIO RECORDERS	BEVERAGE DISPENSER	BLOWERS TOILET
12 VOLT OUTLETS	ACC 8	AIR COND MASTER	AUDIO/VIDEO SYSTEM	BEVERAGE LIFT	BLUE DOME LTS
12 VOLT RACK	ACCENT LIGHTS	AIR COND MID	AUTO CHAIN	BIDGE 1	BOARDING RAMP
120 VAC	ACCESSORY	AIR COND PILOT HOUSE	AUTO HEATER	BIDGE AFT	BOAT DAVIT
120 VAC LIGHTS	ACCESS POINT	AIR COND PORT	AUTO HELM	BIDGE ALARM	BOOM LIGHT
120 VAC-60 HZ	ACTUATORS	AIR COND PORT CABIN	AUTO MAN	BIDGE ALARM AFT	BOOTH BAY
120/240 DC	ADF	AIR COND PORT HELM	AUTO MAN/BILGE PUMP	BIDGE ALARM FWD	BOTH
120/240 VAC	ADO	AIR COND PORT PUMP	AUTO PILOT	BIDGE ALARM MID	BOW LIGHT
120/240 VAC GROUP 1	AERATOR	AIR COND PRIMARY	AUTO PILOT 1	BIDGE BLOWER	BOW THRUSTERS
120VAC-60HZ	AERIAL BASE LIGHTS	AIR COND PUMP	AUTO PILOT 2	BIDGE DRY OUT PUMP	BRIDGE
12V DC SUPPLY	AERIAL POWER	AIR COND PUMP AFT	AUTO PILOT PUMP	BIDGE ENG RM	BRIDGE DECK LTS
12VDC DOME LIGHTS	AERIAL PTO	AIR COND PUMP FWD	AUTO/MAN PORT	BIDGE FWD	BRIDGE DISPLAY
150 AMP CHGR 50/60 HZ	AERIAL TIP LIGHTS	AIR COND PUMP MID	AUTO/MAN STBD	BIDGE LIGHTS	BRIDGE DOOR LOCKS
1-STOP 2-60 3-BACKUP	AFT	AIR COND REAR	AUTO/MANUAL	BIDGE LIGHTS FWD	BRIDGE INSTRUMENTS
220 VAC GALLEY	AFT 12 AMPS	AIR COND SALON	AUTOMATIC	BIDGE MID	BRIDGE LIGHT
220 VAC MASTER	AFT 1 12 AMPS	AIR COND SALON PORT	AUTOMATIC BILGE PUMPS	BIDGE PUMP	BRIDGE LIGHTS
220V 50HZ	AFT 1 100 AMPS	AIR COND SALON STBD	AUTOMATIC DOOR	BIDGE PUMP 1	BRIDGE SUPPLY
24 VDC C/ P OUTLETS PORT	AFT 1 16 AMPS	AIR COND SALON/GALLEY	AUTOMOTIVE HEATER	BIDGE PUMP 2	BRIDGE SUPPLY 1
24 VDC C/ P OUTLETS STBD	AFT 1 30 AMPS	AIR COND SECONDARY	AUX A/C FWD	BIDGE PUMP 3	BRIDGE SUPPLY 12V
24 VDC CHARGER	AFT 1 50 AMPS	AIR COND STATEROOM	AUXILIAR	BIDGE PUMP 4	BRIDGE SUPPLY 2
24 VDC GALLEY	AFT 100 AMPS	AIR COND STBD	AUXILIARY BILGE PUMP	BIDGE PUMP 5	BRIDGE WATCH
24 VOLT BATTERIES	AFT 16 AMPS	AIR COND STBD CABIN	AUXILIARY CONSOLE	BIDGE PUMP 6	BSEP LIGHTS
24 VOLT CONVERTER	AFT 2 100 AMPS	AIR COND STBD HELM	AUXILIARY LIGHTS	BIDGE PUMP 7	BUGGY TOP SUPPLY
24 VOLT DC MAIN	AFT 2 16 AMPS	AIR COND STBD PUMP	AUXILIARY OUTLETS	BIDGE PUMP AFT	BUNK LIGHTS
24 VOLT DC OUTLETS	AFT 2 30 AMPS	AIR COND STUDIO	AUXILIARY PANEL	BIDGE PUMP AFT # 1	BUNK RECEPTACLES
24 VOLT OUTLETS	AFT 2 50 AMPS	AIR COND UTILITY	AVID OUTLETS	BIDGE PUMP AFT # 2	BUNK TV SYSTEM
24/12 VDC CONVERTER	AFT 30 AMPS	AIR COND V.I.P.	AWNINGS	BIDGE PUMP AFT #3	BURGLAR ALARM
240 VAC	AFT 50 AMPS	AIR COND WHEELHOUSE	B	BIDGE PUMP AFT MAN	BUS A
24-12 VDC CONVERTER	AFT CABIN	AIR COND. CAB	B & G INSTRUMENTS	BIDGE PUMP AUTO	BUS B
24V DC BATTERY POWER	AFT DECK	AIR DOOR	BACK LIGHTING	BIDGE PUMP AUTO AFT	BYPASS
30 A MAIN	AFT DECK COURTESY LTS	AIR DRYER	BACKUP INVERTER 1	BIDGE PUMP AUTO FWD	C
32 VDC CHARGER	AFT FLOOR HEATER	AIR EXHAUST SYSTEM	BACKUP INVERTER 2	BIDGE PUMP AUTO MAN	CAB OUTLETS
32 VOLT BATTERIES	AFT HOUSE DECK	AIR FILTER	BAIT COOLER	BIDGE PUMP AUTO MID	CABIN DOOR LOCKS
32 VOLT DC MAIN	AFT LAZARRETTE BLOWER	AIR HANDLER	BAIT PUMP	BIDGE PUMP BOW	CABIN FANS
35 AMP AC MAIN	AFT OULETS	AIR HANDLER 1	BAIT PUMP OUT	BIDGE PUMP CABIN	CABIN HEATER
360° RED	AFT SEARCHLIGHT	AIR HANDLER 2	BAIT PUMP OUT	BIDGE PUMP CENTER	CABIN LIGHT
360° WHITE	AFT STATE LIGHTS	AIR HANDLER 3	BAITWELL	BIDGE PUMP COCKPIT	CABIN LIGHTS
A	AFT TOILET LIGHTS	AIR HANDLER 4	BAITWELL DRAIN PUMP	BIDGE PUMP COCKPIT FWD	CABIN LIGHTS 1
A.C. OUTLETS LEFT	AIMING SYSTEM	AIR HORN	BAITWELL LIGHTS	BIDGE PUMP CREW	CABIN LIGHTS 2
A.C. OUTLETS RIGHT	AIR ALARM	AIR LOCK	BAITWELL PUMP	BIDGE PUMP ENG RM AFT	CABIN LIGHTS 3
A/C - REFRIG PUMP	AIR CHILLER 1	AK 1	BAITWELL SEAWATER PUMP	BIDGE PUMP ENG RM FWD	CABIN LIGHTS 4
A/C HEATER COLD HOT	AIR CHILLER 2	AK 2	BALLAST CONTROLS	BIDGE PUMP ENGINE ROOM	CABIN LIGHTS 5
A/C PANEL	AIR COMP OUTLET	AK 3	BALLAST PUMP	BIDGE PUMP FWD	CABIN LIGHTS 6
A/C PANEL	AIR COMPRESSOR	AK 4	BAR	BIDGE PUMP FWD # 1	CABIN LIGHTS 7
A/C PUMP	AIR COMPRESSOR 1	AK MOBILE	BAR FLYBRIDGE	BIDGE PUMP FWD # 2	CABIN LIGHTS 8
A/C RAW WATER 1	AIR COMPRESSOR 2	ALARM	BAR LIGHTS	BIDGE PUMP FWD # 3	CABIN LIGHTS A
A/C RAW WATER 2	AIR COND	ALARM INTERFACE	BASEBAND SWITCH	BIDGE PUMP FWD MAN	CABIN LIGHTS B
A/C THERMOSTAT	AIR COND # 2	ALARM MASTER	BATH CONVECTOR	BIDGE PUMP GALLEY	CABIN LIGHTS FWD
ABS	AIR COND 1	ALARM SYSTEM	BATH HEATER	BIDGE PUMP GEN RM	CABIN LIGHTS HEAD
AC - REFRIG PUMP	AIR COND 2	ALLEY LIGHTS LEFT	BATH RECEPT	BIDGE PUMP GUEST	CABIN LIGHTS MAIN
AC AUX FWD	AIR COND 3	ALLEY LIGHTS RIGHT	BATHROOM	BIDGE PUMP LAZARRETTE	CABIN LIGHTS MASTER
AC AUX REAR	AIR COND 4	ALTERNATOR DISCONNECT	BATHROOM LIGHTS	BIDGE PUMP LOUNGE	CABIN LIGHTS MID
AC COMPRESSOR	AIR COND 5	AMPLIFIER	BATT CHARGER BRIDGE	BIDGE PUMP MANUAL	CABIN LIGHTS PORT
AC FAN	AIR COND AFT	AN/FCC-100	BATT CHARGER PORT	BIDGE PUMP MASTER	CABIN LIGHTS SALON
AC FRESH WTR PUMP	AIR COND AFT DECK	AN/PSC-5# 1	BATT CHARGER STBD	BIDGE PUMP MID	CABIN LIGHTS STBD
AC GROUNDING	AIR COND AFT STRM	AN/PSC-5# 2	BATT CHARGER WHEELHOUSE	BIDGE PUMP MID # 1	CABIN MASTER
AC MAIN	AIR COND AIR AFT	ANCHOR	BATTERY	BIDGE PUMP MID # 2	CABIN OUTLETS
AC OUTLET	AIR COND AUX AFT	ANCHOR LIFT	BATTERY 2	BIDGE PUMP MID #3	CABIN STEREO
AC OUTLETS	AIR COND AUX FWD	ANCHOR LIGHT	BATTERY BLOWER	BIDGE PUMP MID MAN	CABINET LIGHTS
AC OUTLETS 1	AIR COND AUX MID	ANCHOR LIGHTS	BATTERY BOX LIGHT	BIDGE PUMP PORT	CABINET LIGHTS PORT
AC OUTLETS 2	AIR COND CABINS	ANCHOR LOCKER LIGHT	BATTERY CHARGER	BIDGE PUMP PORT MTR	CABINET LIGHTS STBD
AC OUTLETS 3	AIR COND CAPTAIN	ANCHOR LT MAIN	BATTERY CHARGER 1	BIDGE PUMP REAR	CABLEMASTER
AC OUTLETS 4	AIR COND CHILLER 1	ANCHOR LT MIZZEN	BATTERY CHARGER 2	BIDGE PUMP STBD	CABLEMASTER 1
AC OUTLETS 5	AIR COND CHILLER 2	ANCHOR WASHDOWN	BATTERY CHARGER 3	BIDGE PUMP STBD MTR	CABLEMASTER 2
AC OUTLETS 6	AIR COND CHILLER 3		BATTERY CHRG 12 VOLT	BIDGE PUMP STERN	CABLEMASTER PORT
AC OUTLETS 7	AIR COND CHILLER 4			BIDGE PUMP UTILITY	

CABLEMASTER STBD
CAMERA
CAMERA DRY
CAMERA PORTS
CAMERA SWITCHER
CAMERA WASH
CAMERA/RADAR
CAMERAS
CAPTAIN'S CHAIR
CAPTAIN'S HEAD
CAPTAINS QTRS
CASSETTE PLAYER
CAT ALARM
CB
CCTV
CCU
CD CHANGER
CD PLAYER
CDX
CEILING FAN
CEILING LIGHTS
CELLULAR PHONE
CENTER C/P STEP BOX
CENTRAL VACUUM
CENTRAL VACUUM AFT
CENTRAL VACUUM FWD
CHAIN COUNTER
CHAIN LOCKER
CHANDELIER
CHARGER
CHARGER/INVERTER
CHART LIGHT
CHART PLOTTER
CHART RECORDER
CHILL BOX
CHILLED WATER PUMP
CHILLER CIRC. WATER PUMP
CHOKE
CIR. PUMP ALARM
CIRC PUMP
CIRCUIT 1
CIRCUIT 2
CIRCUIT 3
CIRCUIT 4
CIRCUIT 5
CIRCUIT 6
CIRCUIT 7
CIRCUIT 8
CIRCUIT 9
CIRCUIT 10
CIRCUIT 11
CIRCUIT 12
CIRCUIT 13
CIRCUIT 14
CIRCUIT 15
CIRCUIT 16
CIRCUIT 17
CIRCUIT 18
CIRCULATING HI FANS LO
CIRCULATION FANS
CIRCULATOR PUMP
CLEAR DIESEL
CLEARANCE ID
CLOCK LIGHTS
CLOSET LIGHT
CO - DETECTOR
CO MONITOR
COACH LIGHTS
COCKPIT BLOWERS
COCKPIT CAMERA
COCKPIT FREEZER
COCKPIT FREEZER 2
COCKPIT GRILL
COCKPIT HATCH
COCKPIT ICE MAKER
COCKPIT INDIRECT LIGHTS
COCKPIT INSTRUMENTS
COCKPIT LIGHTS
COCKPIT REFRIG
COCKPIT REFRIG 1
COCKPIT ROPE LTS
COCKPIT SUMP
COCKPIT SUPPLY
COCKPIT VISOR LIGHTS
COFFEE MAKER
COCKPIT DC LIGHTS
COLD FISH WELL
COLLISION AVOIDANCE
COLOR SOUNDER
COMMAND LIGHTS
COMMODO
COMMUNICATION ELECTRON-
ICS
COMP 240 VOLT
COMPACTOR
COMPANIONWAY SUB PANEL
COMPANIONWAY/DAY HEAD
FEED
COMPARTMENT HEATER
COMPARTMENT LIGHT

COMPARTMENT LIGHTS AFT
COMPARTMENT LIGHTS FWD
COMPARTMENT OUTLET
COMPASS LIGHT
COMPASS LIGHTS
COMPASS STURDY
COMPRESSOR
COMPRESSOR (VALVE)
COMPRESSOR 1
COMPRESSOR 2
COMPRESSOR HORN
COMPT. CONVECTOR
COMPUTER
COMPUTER 1
COMPUTER 2
COMPUTER DISPLAY
COMPUTER LINE A
COMPUTER LINE B
COMPUTER NETWORK
CONDENSATE PUMPS
CONDENSER PUMP
CONNECT TO +24 VDC
CONNECTOR PANEL
CONSOLE LIGHT
CONTROL LAPTOP
CONTROL RM CONVECTOR
CONV#2 STDB-ENG
CONVECTOR 2
CONVECTORS
CONVENIENCE OUTLETS
CONVERT MIC SYSTEM
CONVERTER 12V
CONVERTER PORT
CONVERTER STBD
CONVERTOR
CONVERTOR 1
COOKING GRILL
COOKING STEAK GRILL
COOKTOP
COOKTOP CREW LOUNGE
COOL PLATE
COOLING PUMP
COPIER
COPILOT SEAT
CORD 1
CORD 2
CORROSION METER
COUNTER LIGHTS
COURTESY
COURTESY A
COURTESY B
COURTESY LIGHTS
COURTESY LIGHTS AFT
COURTESY LIGHTS FWD
COURTESY LIGHTS MID
COVERTER 12V
CRANE CONTROL
CREW CABIN A/C
CREW CABIN LIGHTS
CREW CABIN OUTLETS
CREW HEAD OUTLET
CREW LIGHTS
CREW LIGHTS LV
CREW QUARTER LIGHTS
CREW QUARTERS
CRITICAL
CROSSOVER SOLENOID
CRT
CRUSHED ICE MAKER
CUDDY LIGHTS
CURB BAYS
CURB LIGHTS
CURB SCENE LIGHTS
CURB SIDE CONF. OUTLET
CURB SIDE INTERIOR
CURBSIDE FLOODS
CURIO LIGHTS
CURSIDE/REAR FLOODS
C-WAY PANEL

D

DAMAGE CONTROL PUMP
DASHBOARD PANELS
DATA MARINE
DAVIT
DAVITS
DAY HEAD FAN
DAY HEAD OUTLETS
DAY HEAD SUB PANEL
DAY HEAD SUPPLY
DAYHEAD LIGHTS
DC BUS TIE
DC LIGHTS
DC MAIN
DC MAIN A 60 AMPS
DC MAIN B 60 AMPS
DC OUT 1
DC OUT 2
DC OUT 3
DC OUTLETS
DC OUTLETS 1

DC OUTLETS 2
DC OUTLETS 3
DC OUTLETS 4
DC OUTLETS 5
DC OUTLETS 6
DC OUTLETS 7
DC OUTLETS 8
DC PANEL
DC PUMPS
DC REFRIGERATOR
DC1
DC2
DC3
DC-BUS
DDEC
DDEC CRT PILOT HOUSE
DDEC ENG RM COMPUTER
DDEC ERIM PORT
DDEC ERIM STBD
DDEC MIM PORT
DDEC MIM STBD
DDEC PORT COMPUTER
DDEC PORT EGIM
DDEC PORT ENG IGNITION
DDEC STBD COMPUTER
DDEC STBD EGIM
DDEC STBD ENG IGNITION
DECCA
DECK HOUSE LIGHTS
DECK HOUSE OUTLET
DECK LIGHTS
DECK LIGHTS AFT
DECK LIGHTS FWD
DECK LIGHTS FWD STAIR
DECK LIGHTS PORT
DECK LIGHTS PORT AFT
DECK LIGHTS PORT FWD
DECK LIGHTS PORT MID
DECK LIGHTS STBD
DECK LIGHTS STBD AFT
DECK LIGHTS STBD FWD
DECK LIGHTS STBD MID
DECK LIGHTS/COCKPIT
DECK LIVWELL
DECK WASH PUMP
DECKWASH PUMP SALT WATER
DECOR LIGHTS
DEEP DROP OUTLETS
DEFOG FANS
DEFROSTER
DEFROSTER HI LOW
DEHUMIDIFIER
DEPTH
DEPTH FINDER
DEPTH RECORDER
DEPTH SOUNDER
DEPTH SOUNDER PORT
DEPTH SOUNDER STBD
DEPTH/SPEED
DESALINATOR
DESK LIGHTS
DIGITAL DEPTH
DIGITAL INST SCREEN
DIMMER
DINETTE HEATER
DINETTE OUTLETS
DINING ROOM OVERHEAD LTS
DINING ROOM WALL LIGHTS
DIPLEXER (INDOOR)
DISCHARGE PUMP
DISHWASHER
DISPATCH
DISPOSAL
DISTILLER
DIVE COMPRESSOR
DIVE LIGHTS
DOCKING LIGHT PORT
DOCKING LIGHT STBD
DOCKING LIGHTS
DOCKING LIGHTS AFT
DOCKING LT FWD
DOME LIGHTS
DOWN RIGGER
DREDGE REELS
DRINKING WATER
DRIVE TRIM CONTROL
DRIVER A/C
DRIVER/PASS CAB. HEATERS
DRIVER/PASS. CAB
DRIVERS LIGHT
DROP DOWN BOX
DRYER
DRYER LAUNDRY
DRYOUT BILGE AFT
DRYOUT BILGE FWD
DSS
DUMB WAITER
DUMP VALVES
DVD
DVD PLAYER

E

ELECTRIC HATCH
ELECTRIC HEADS
ELECTRIC HORN
ELECTRIC REEL
ELECTRIC REEL PORT
ELECTRIC REEL STBD
ELECTRIC SLIDE
ELECTRIC WINDLASS
ELECTRO HELM
ELECTRONIC BATTERY
ELECTRONIC BATTERY CHARGER
ELECTRONICS
ELECTRONICS BRIDGE
ELECTRONICS FLYBRIDGE
ELECTRONICS WHEELHOUSE
EMERG MAIN 50 AMPS
EMERG STOP PORT
EMERG STOP STBD
EMERGENCY BACKUP SYS
EMERGENCY BATTERY ELECT
EMERGENCY BEACON
EMERGENCY DC LIGHTING
EMERGENCY LIGHTS
EMERGENCY PUMPS
ENG & GEN RM LIGHT
ENG BATT CHARGER
ENG BATTERY CHARGER
ENG CONTROL PORT
ENG CONTROL STBD
ENG GEN ROOM
ENG MEMORY
ENG PARALLEL
ENG PRESSURE
ENG RM CIRC FANS
ENG RM LT STBD
ENG RM LTS PORT
ENG ROOM
ENG ROOM FANS
ENG ROOM FANS INLET
ENG ROOM FANS OUTLET
ENG ROOM LIGHTS
ENG ROOM LTS AFT
ENG ROOM LTS FWD
ENG ROOM OUTLETS
ENG ROOM PANEL MAIN
ENG ROOM RECEPTACLES
ENG. RM. OUTLET & GENERATOR HTR
ENG. RM. SUB. FEED
ENGINE
ENGINE ALARM
ENGINE ALARM SYS
ENGINE BLOCK HEATER
ENGINE CONTROLS
ENGINE DRIVEN REFRIGERATOR
ENGINE DRIVEN SEAWATER PUMP
ENGINE EXHAUST FAN
ENGINE HATCH
ENGINE HEATER PORT
ENGINE HEATER STBD
ENGINE IDLE
ENGINE INSTRUMENTS
ENGINE LAZ OUTLET
ENGINE MACERATOR
ENGINE MEMORY
ENGINE OIL PAN PUMP
ENGINE REFRIG
ENGINE RM BILGE PUMP
ENGINE ROOM BLOWER
ENGINE ROOM BLOWERS
ENGINE ROOM HEAD
ENGINE ROOM PANEL
ENGINE ROOM SUB-PANEL
ENGINE ROOM SUPPLY
ENGINE ROOM VACUUM
ENGINE SHUTDOWN
ENGINE SLOW MODE
ENGINE TEMP
ENTERTAINMENT
ENTERTAINMENT CENTER
ENTRY LIGHTS
ENTRY STEP
EQUALIZER
EQUIP RM BLOWER
EQUIP RM LIGHTS
ER BILGE PUMP
ER EXHAUST FAN
ER SUPPLY FAN
ESKIMO ICE
ESKIMO ICE MAKER
ETHERNET SWITCH
EXHAUST FAN
EXHAUST FAN RIGHT ENG
EXHAUST LEFT ENG
EXHAUST TEMP
EXHAUST VENT
EXTERIOR 1
EXTERIOR 2
EXTERIOR 3
EXTERIOR 4

EXTERIOR COURTESY LIGHTS
EXTERIOR LIGHTS
F
FAILING LIGHT
FAN
FAN - ENGINE OIL COOLER
FAN 1
FAN 2
FAN RADIATOR
FAN SPEED
FAN TRANSMISSION
FANS
FANS 3
FANS PORT
FANS STBDS
FATHOMETER
FAX
FIBEROPTIC
FILLING PUMP
FILTER BOSS
FILTER SYSTEM
FIRE ALARM
FIRE EXT
FIRE HORN
FIRE PUMP
FIRE STROBE
FIRE/HIGHWATER
FISH BOX DRAIN PUMP
FISH FINDER
FISHBOX CHILLER
FISHBOX ICEMAKER
FISHBOX MACERATOR
FISHBOX PUMP OUT
FISHING LIGHT
FISHING LIGHTS
FLAPS
FLIR
FLIR DE-ICER
FLOOD LIGHT
FLOOD LIGHTS
FLOOD LIGHTS AFT
FLOOD LIGHTS FWD
FLOOD LIGHTS LEFT
FLOOD LIGHTS REAR
FLOOD LIGHTS RIGHT
FLOOR HEAT BATH
FLOOR HEAT FWD
FLOOR HEAT MID
FLOOR HEAT REAR
FLOOR LIGHTS
FLOSCAN
FLOURESCENT
FLUID GAUGE
FLUORECENT LIGHTS
FLUXGATE COMPASS
FLY BRIDGE LIGHTS
FLY BRIDGE SUPPLY
FLY BRIDGE VHF
FLYBRIDGE
FLYBRIDGE DEFROSTER
FLYBRIDGE DRINK BOX
FLYBRIDGE ELECTRONICS
FLYBRIDGE GPS
FLYBRIDGE ICEMAKER
FLYBRIDGE OUTLETS
FLYBRIDGE REFRIG
FLYBRIDGE SUB PANEL
FM EXCITER
FM TRANSMITTER 1
FM TRANSMITTER 2
FM TRANSMITTER 3
FOAM PRO
FOG LIGHTS
FOOD CENTER
FOOD PROCESSOR
FOOT LIGHTS EMERGENCY
FORE CABIN
FORE PEAK LIGHTS
FOREDECK ELECTRONICS
FOREDECK LIGHT
FORWARD
FORWARD STAIR LIGHT
FREEZER
FREEZER 1
FREEZER 2
FREEZER 3
FREEZER AFT DECK
FREEZER ALARM
FREEZER BAIT BOX
FREEZER BAIT PUMP
FREEZER BRIDGE
FREEZER C/P
FREEZER FLYBRIDGE
FREEZER PILOT HOUSE
FREEZER UTILITY ROOM
FREEZER WATER MAKER
FRESH WATER
FRESH WATER BACKUP PUMP
FRESH WATER PUMP
FRESH WATER PUMP 1

FRESH WATER PUMP 2
FRESH WATER WASH DOWN
FRIDGE
FROG
FRONT A/C CONDENSER
FRONT A/C EVAPORATOR
FRONT A/V
FRONT AMPLIFIER
FRONT DECK
FRONT DINETTE
FRONT FLOURESCENT
FRONT LOUNGE HEATER
FRONT LT BAR 180/360
FRONT OUTLETS
FRONT PLASMA
FRONT REDS
FUEL AFT
FUEL FILL
FUEL FILL MONITOR
FUEL FILTER
FUEL FLOW PORT
FUEL FLOW STBD
FUEL FWD
FUEL GAUGES
FUEL PRIME
FUEL PRIMER PUMP
FUEL PRIMER PUMP PORT
FUEL PRIMER PUMP STBD
FUEL PUMP
FUEL PUMP 1
FUEL PUMP 2
FUEL PUMP 3
FUEL PUMP PORT
FUEL PUMP STBD
FUEL PUMPS
FUEL PURIFIER
FUEL TANK HEATER
FUEL TRANSFER
FUEL TRANSFER AFT
FUEL TRANSFER BACKUP
FUEL TRANSFER CONTROL
FUEL TRANSFER FWD
FUEL TRANSFER LEFT
FUEL TRANSFER PRIMARY
FUEL TRANSFER PRIMER
FUEL TRANSFER PUMP
FUEL TRANSFER PUMP PORT
FUEL TRANSFER PUMP STBD
FUEL/WATER GAUGE
FURLER JIB
FURLER MAIN SAIL
FURLER SPINNAKER
FURNACE
FURUNO 1100
FURUNO RD-30
FWD
FWD 1 100 AMPS
FWD 1 16 AMPS
FWD 1 30 AMPS
FWD 1 50 AMPS
FWD 100 AMPS
FWD 16 AMPS
FWD 2 100 AMPS
FWD 2 16 AMPS
FWD 2 30 AMPS
FWD 2 50 AMPS
FWD 30 AMPS
FWD 50 AMPS
FWD BILGE PUMP
FWD BOW RECP.T
FWD CABIN & TOILET LTS
FWD CABIN SUPPLY
FWD DECK
FWD DE-ICER
FWD FLOOR HTR
FWD HEAD FAN
FWD SEARCH LIGHT
FWD SHOWER BOX
FWD SLIDE OUTLETS
FWD STATE LIGHTS
FWD SUB PANEL
G
GAC CHASSIS
GALLERY LIGHT
GALLEY
GALLEY APPLIANCES
GALLEY BLOWER
GALLEY CABINET LIGHTS
GALLEY DC LIGHTS
GALLEY DRAIN
GALLEY EXHAUST
GALLEY FAN
GALLEY FLUORESCENT
GALLEY HALL LIGHTS
GALLEY HEATER
GALLEY ICE MAKER
GALLEY LIGHT
GALLEY LIGHTS
GALLEY LIGHTS 1
GALLEY LIGHTS 2
GALLEY LTS PORT

GALLEY LTS STBD
GALLEY MACERATOR
GALLEY OUTLET 2
GALLEY OUTLET 3
GALLEY OUTLET 4
GALLEY OUTLET 5
GALLEY RECEPT
GALLEY REFRIG 1
GALLEY REFRIG 2
GALLEY REFRIGERATOR
GALLEY SINK
GALLEY SINK LIGHTS
GALLEY SPARE
GALLEY SUB-PANEL
GALLEY/HALL HEATER
GALLEY/HALL HEATERS
GALVANIC ISOLATOR
GALVANIC ISOLATOR #1
GALVANIC ISOLATOR #2
GARBAGE DISPOSAL
GAS ALARM
GAS SOLENOID
GAS VALVE
GAUGES
GB OUTLETS
GC
GEAR TEMP
GEN 30 AMPS
GEN BATT CHARGER
GEN BATTERY
GEN BATTERY COND
GEN BLOWER
GEN PARALLEL
GEN ROOM
GEN ROOM BLOWER
GEN/HVAC MACERATOR
GEN/INVERTER
GENERAL ALARM
GENERAL LIGHTS
GENERAL PURPOSE
GENERATOR
GENERATOR 1
GENERATOR 1 BLOCK HEATER
GENERATOR 10 KW
GENERATOR 100 AMPS
GENERATOR 12 KW
GENERATOR 18 KW
GENERATOR 2
GENERATOR 2 BLOCK HEATER
GENERATOR 20
GENERATOR 20 KW
GENERATOR 3
GENERATOR 30
GENERATOR 30 AMPS
GENERATOR 30 KW
GENERATOR 4.5 KW
GENERATOR 40 AMPS
GENERATOR 5.5 KW
GENERATOR 50 AMPS
GENERATOR 6.5 KW
GENERATOR 60 AMPS
GENERATOR 8 KW
GENERATOR 80 AMPS
GENERATOR ALARM
GENERATOR BLOCK HEATER
GENERATOR DIRECT
GENERATOR FAST IDLE
GENERATOR PARALLEL
GENERATOR PREHEAT
GENERATOR PRE-HEAT
GENERATOR ROOM PANEL
GENERATOR START/STOP
GENERATOR STOP/START
GENOA FURLER
GFCP
GFCP/MODEL 3014
GFI CIRCUIT 1
GFI CIRCUIT 2
GFI OUTLET
GFI OUTLETS No. 1
GFI OUTLETS No. 2
GLOVEBOX
GLOW PLUGS
GOOSENECK LIGHTS
GPS
GPS 1
GPS 2
GPS GYRO 1
GPS PORT
GPS STBD
GPS/LORAN
GPS/PLOTTER
GRAY WATER AFT
GRAY WATER FWD
GRAY WATER PUMP
GRAY WATER PUMP MANUAL
GRILL
GRILL # 1
GRILL # 2
GRILL/RANGE

GRINDER
GROUNDING BUS
GROUP 1 POWER
GROUP 2 POWER
GUEST A/V
GUEST AND CREW STEREO
GUEST BATH
GUEST BCABIN OUTLETS
GUEST CABIN A/C
GUEST CABIN AUX
GUEST CABIN LIGHT LV
GUEST CABIN LIGHTS
GUEST CABIN RECEPTACLE
GUEST CABIN TOILET
GUEST CONTROLLER
GUEST HEAD OUTLET
GUEST STATE LIGHTS
GUEST TV
GUEST VANITY
GYRO COMPASS
GYRO/SAT TV
H
H.P.A.
HAILER
HAILER 1
HAILER 2
HAIR DRYER
HAIR DRYER AFT LOWER BR
HAIR DRYER AFT UPPER BR
HAIR DRYER CAPTAIN BATH
HAIR DRYER FWD BATH
HAIR DRYER FWD LOWER BR
HAIR DRYER FWD UPPER BR
HALL HEATER
HALL LIGHTS
HALLWAY LIGHTS
HALOGEN LIGHT
HALON FIRE SYSTEM
HALON PORT
HALON STBD
HALYARD WINCH
HAM RADIO
HAM TR CVR
HARDTOP SUPPLY
HAT LIGHT
HAT LIGHT TEST
HATCH LIFT
HATCH RELAYS
HAULING
HAULING 2
HAZARD
HDTV
HEAD
HEAD AFT
HEAD BLOWER
HEAD BLOWER AFT
HEAD BLOWER FWD
HEAD BLOWER GUEST
HEAD BLOWER MASTER
HEAD BLOWER PORT
HEAD BLOWER STBD
HEAD CREWS
HEAD DAY
HEAD EXHAUST
HEAD FAN CREWS
HEAD FAN GUEST
HEAD FAN MASTER
HEAD FWD
HEAD GUEST
HEAD GUEST FWD
HEAD INLET PUMP
HEAD MASTER
HEAD OUTLETS
HEAD PORT
HEAD PUMP
HEAD STBD
HEAD SYSTEM
HEAD VAC GEN 1
HEAD VAC GEN 2
HEADHUNTER GAUGES
HEADLIGHT FLASHER
HEADLIGHT SWITCH
HEADLIGHTS
HEAT COIL 1
HEAT COIL 2
HEAT STRIP
HEATER
HEATER 1
HEATER 1A
HEATER 1B
HEATER 2
HEATER 3
HEATER 4
HEATER 5
HEATER A/C
HEATER AFT
HEATER BAY
HEATER C1
HEATER C2
HEATER C3

HEATER CABIN
HEATER CRR
HEATER ENGINE ROOM
HEATER FAN
HEATER FANS
HEATER FWD
HEATER GALLEY
HEATER GUEST
HEATER HI
HEATER LOW
HEATER MASTER
HEATER MID
HEATER PLUMBING BAY
HEATER SALON
HEATER STORAGE BAY
HELM
HELM A
HELM B
HELM BLOWERS
HELM C
HELM CHAIR
HELM ELECTRONICS
HELM PANEL
HELM SEAT
HELM SUB PANEL
HF TRANSCEIVER
HI/LOW IDLE
HIDE A BERTH
HIGH IDLE
HIGH PSI PUMP
HIGH WATER ALARM
HOLDING PORT
HOLDING PUMP
HOLDING TANK
HOLDING TANK AFT
HOLDING TANK ALARM
HOLDING TANK FWD
HOLDING TANK HEATER
HOLDING TANK MID
HOLDING TANK PUMP
HOLDING TANK PUMP AFT
HOLDING TANK PUMP FWD
HOOD BLOWER
HOOD FAN
HOOD LIGHT
HORN
HORN 1
HORN 2
HORN AIR/ELECTRIC
HORN COMPRESSOR
HORN RELAY
HOSE MASTER
HOSE REEL
HOT TUB FILL
HOT TUB HEATER
HOT WATER
HOT WATER PUMP
HOTEYE
HOUSE BATTERY
HPR SENSOR
HRP ALARM UNIT
HUB
HVAC 1
HVAC 2
HVAC 3
HYDRAULIC ALARM
HYDRAULIC CLUTCH
HYDRAULIC SYSTEM
HYDRAULIC TANK ALARM
HYDROGEN GEN
HYDRONIC HEAT
HYDROTECH PUMP
I
ICAM
ICAM PUMP
ICE MAKER
ICE MAKER 1
ICE MAKER 2
ICE MAKER BRIDGE
ICE MAKER FLY
ICE MAKER SALON
ICEBOX
ICEBOX DRAIN
ICEBOX DRAIN PUMP
ICEBOX LEFT
ICEBOX RIGHT
ICEMAKER DINNING AREA
IF/M & C DIPLEXER
IGNITION
IGNITION CENTER
IGNITION PORT
IGNITION STBD
IGNITION SWITCH
ILLUMINATED GLASS
IMPRESSED CURRENT PORT
IMPRESSED CURRENT STBD
INDICATOR LIGHTS
INDIRECT LIGHTS
INFRARED ILLUMINATOR
INLET VALVE

INS BACKUP PWR
INSTA - HOT WATER
INSTA-HOT
INSTRUMENT LIGHTS
INSTRUMENTS
INSTRUMENTS LO HI
INTERCOM
INTERCOM - TELEPHONE
INTERCOM HAILER
INTERIOR COURTESY LIGHTS
INTERIOR LIGHTS
INTERIOR RECEPTACLES
INTERNAL LIGHTS
INTERNAL VIDEO
INTERSECTION LIGHTS
INVERTER
INVERTER 1
INVERTER 2
INVERTER CHARGER
INVERTER INPUT
INVERTER MAIN
INVERTER OUTPUT
INVERTER OUTPUT MAIN
INVERTER SUPPLY
IRIDIUM
ISOLATION TRANSFORMER
J
JACKKNIFE ALARM
JACKKNIFE APPROACHING
JACKS
JACUZZI
JACUZZI AFT
JACUZZI FWD
JET CONTROLS
JET HYDRAULIC ALARM
JOG STICKS
K
KAMEWA MAIN
KEG COOLER
KITCHEN 1
KITCHEN 2
KITCHEN HEATER
KITE REEL PORT
KITE REEL STBD
KNOT METER
L
LAMP RACK NO.3
LAMP RACK NO.4
LAN
LASER PLOTTER
LAVATORY
LAZARETTE BLOWER
LAZARETTE LIGHTS
LAZARETTE LIVEWELLS
LAZER PLOTTER
LECTRA SAN 1
LECTRA SAN 2
LECTRASAN
LED BYPASS
LEFT BLOWER
LEFT BUNK CONVENIENCE
LEFT CAB TELE LIGHT
LEFT FUEL PRIMER PUMP
LEFT OUTLETS
LEFT REEL
LEFT SCENE LIGHTS
LEVELING JACKS
LH WINDSHIELD WIPER
LIGHTER
LIGHTING
LIGHTS
LIGHTS 1
LIGHTS 2
LIGHTS 3
LIGHTS 4
LIGHTS 5
LIGHTS 6
LIGHTS 7
LIGHTS 8
LIGHTS 9
LIGHTS 10
LIGHTS ABOVE DECK
LIGHTS AFT
LIGHTS AFT DECK
LIGHTS ANCHOR
LIGHTS BAITWELL
LIGHTS BELOW DECKS
LIGHTS BILGE
LIGHTS BRIDGE
LIGHTS BUNK
LIGHTS CAPTAIN
LIGHTS CAPTAIN BATH
LIGHTS CHAIN LOCKER
LIGHTS CLOSET
LIGHTS COMPANION WAY
LIGHTS CONSOLE
LIGHTS CORRIDOR
LIGHTS CREW AFT
LIGHTS CREW BATH AFT
LIGHTS CREW BATH FWD

LIGHTS CREW FWD
LIGHTS CREW LOUNGE
LIGHTS DINNING AREA 1
LIGHTS DINNING AREA 2
LIGHTS DINNING ROOM
LIGHTS EXTERIOR
LIGHTS FLYBRIDGE
LIGHTS FRONT CURB
LIGHTS FRONT LOUNGE
LIGHTS FRONT STREET
LIGHTS FWD
LIGHTS GALLEY
LIGHTS GEN ROOM
LIGHTS GUEST
LIGHTS GUEST BATH PORT
LIGHTS GUEST BATH STBD
LIGHTS GUEST PORT
LIGHTS GUEST POWDER
LIGHTS GUEST STBD
LIGHTS GUNNEL
LIGHTS HEAD
LIGHTS INTERIOR
LIGHTS LAUNDRY
LIGHTS LOW VOLTAGE
LIGHTS MASTER
LIGHTS MASTER BATH
LIGHTS MID
LIGHTS OVERHEAD FWD
LIGHTS OVERHEAD REAR
LIGHTS REAR CURB
LIGHTS REAR LOUNGE
LIGHTS REAR STREET
LIGHTS RR
LIGHTS SALON
LIGHTS SALON 1
LIGHTS SALON 2
LIGHTS STORAGE
LIGHTS UTILITY
LIGHTS V.I.P.
LIGHTS V.I.P. BATH
LIGHTS WHEELHOUSE
LIGHTS X FMR
LIGHTS-FANS
LINE 1 LINE 2
LIVEWELL
LIVEWELL 1
LIVEWELL 2
LIVEWELL BACKUP
LIVEWELL BACKUP
LIVEWELL INPUT
LIVEWELL MACERATOR
LIVEWELL OUTPUT
LIVEWELL PUMP
LIVING ROOM HEATER
LOAD CELL
LOAD GROUP 1
LOAD GROUP 2
LOCKER LIGHTS
LOG
LORAN
LORAN 1
LORAN 2
LORAN GPS
LORAN SAT NAV.
LORAN/DECCA
LOUD HAILER
LOUNGE
LOUNGE LIGHT
LOW IDLE
LOWER DECK
LP 1
LP 2
LP GAS
LPG CONTROL
LPG/12 V
LUBE OIL PUMP
M
MACERATOR
MACERATOR 1
MACERATOR 2
MACERATOR BAITWELL
MACERATOR FISH BOX
MACERATOR GREYWATER
MACERATOR PORT
MACERATOR PUMP
MACERATOR SEWAGE
MACERATOR STBD
MAIN
MAIN 100 AMPS
MAIN 16 AMPS
MAIN 30 AMPS
MAIN 50 AMPS
MAIN 60 AMPS
MAIN 80 AMPS
MAIN BATTERY CHARGER 1
MAIN BATTERY CHARGER 2
MAIN DECK PORT LIGHTS
MAIN DECK STBD LIGHTS
MAIN ENGINE HATCH LIFT
MAIN FURLER

MAIN INVERTER
MAIN NO 2A 100 AMPS
MAIN NO 2B 100 AMPS
MAIN NO 3 50 AMPS
MAIN SAIL FURLING
MAIN SALOON LIGHTS
MAIN WINCH PORT
MAIN WINCH STBD
MAKE UP LIGHTS
MAN OVERBOARD ALARM
MANUAL
MAP LIGHT
MAST 1
MAST 2
MAST AIR COMPRESSOR
MAST FLOOD AFT
MAST FLOOD FWD
MAST FLOOD LTS
MAST LIGHT
MAST LIGHTS
MAST STROBE
MAST/JACK CONTROLS
MASTER
MASTER & TOILET LTS
MASTER / START
MASTER A/V
MASTER CABIN A/C
MASTER CABIN OUTLETS
MASTER CABIN RECEPTACLE
MASTER CABIN TOILET
MASTER CEILING LIGHTS
MASTER CONSOLE
MASTER CONTROLLER
MASTER GUEST CUDDY ETC
MASTER HEAD OUTLET
MASTER LIGHTS
MASTER LIGHTS LV
MASTER LIGHTS PORT
MASTER LIGHTS STBD
MASTER STEREO
MASTER TOILET BLWR
MASTER TV
MASTER VANITY
MASTER WALL LIGHTS
MASTHEAD LIGHT
MATRIX SWITCHER
MATRIX SYSTEMS
MBT AFT
MBT FWD
MEDICAL EQUIPMENT
MEMORY
MERCATHODES
MEZZANINE LIGHTS
MICRO ANTENNA
MICROWAVE
MICROWAVE LINE B
MICROWAVE REAR DECK
MICROWAVE RECEIVERS
MID 1 16 AMPS
MID 1 30 AMPS
MID 1 50 AMPS
MID 1 100 AMPS
MID 100 AMPS
MID 16 AMPS
MID 2 16 AMPS
MID 2 30 AMPS
MID 2 50 AMPS
MID 2 100 AMPS
MID 30 AMPS
MID 50 AMPS
MID BILGE PUMP
MID LIGHTS
MINI DISC PLAYER
MISTER
MIZZEN FLOOD
MMC AUX
MMC MAIN
MOBIL DATA TERMINAL
MONITOR
MONITOR 1
MONITOR 2
MONITOR 3
MONITOR 4
MONITOR FIRE SYS
MONITORS
MOTION DETECTOR
MRIL
MSD
MSTR STATERM HEATER
MTU PANEL
MUTE
N
NACTEX
NAV / ANCH LIGHTS
NAV / ANCHOR
NAV / TEX
NAV AREA
NAV COM
NAV DISPLAY 1
NAV DISPLAY 2

NAV MULTIPLEXER
NAV NET
NAV NETWORK
NAV STATION LIGHTS
NAV/ANCHOR
NAVIGATION ELECTRONICS
NAVIGATION INSTRUMENTS
NAVIGATION LIGHT
NAVIGATION LIGHTS
NAV-NET 1
NAV-NET 2
NEGATIVE
NETWORK
NEUTRAL 1 & 2
NEUTRAL 3 & 4
NEUTRAL BUS
NEUTRAL LINE 1
NEUTRAL SOLENOIDS
NIGHT LIGHTS
NIGHT SCAN
NITROGEN GEN
NORMAL
NORTHSTAR 490
NORTHSTAR 6000
NORTHSTAR 6000I
NORTHSTAR 952
NORTHSTAR NETWORK
NOT IN USE
NOT UNDER COMMAND LTS
NOTEJET 486

O

OBRNE
OCU
OFF
OFF / ON
OFFICE LIGHTS
OIL CHANGE
OIL CHANGE PUMP
OIL CHANGE PUMP PORT
OIL CHANGE PUMP STBD
OIL CHG. PUMP / DC REFRIG.
OIL PUMP
ON
ON AIR
ON DECK LIVEWELL
ON DECK LIVEWELL 1
ON DECK LIVEWELL 2
ON ROAD DIESEL
OPENSKY CELL SITE
OPTIONAL EQUIPMENT
ORANGE OUTLET
OUTLET BRDG
OUTLET COMPARTMENT
OUTLET COMPUTER
OUTLET FLYBRIDGE
OUTLET FWD
OUTLET LEFT FRONT
OUTLET LEFT REAR
OUTLET LEFT SIDE
OUTLET MAIN
OUTLET MID PORT
OUTLET RIGHT FRONT
OUTLET RIGHT REAR
OUTLET RIGHT SIDE
OUTLET TECH CABIN
OUTLETS
OUTLETS 1
OUTLETS 2
OUTLETS 3
OUTLETS 4
OUTLETS 5
OUTLETS 6
OUTLETS 7
OUTLETS A
OUTLETS ABOVE DECK
OUTLETS AFT
OUTLETS AFT HEAD
OUTLETS AFT PORT
OUTLETS AFT STBD
OUTLETS B
OUTLETS BATHROOM
OUTLETS BELOW DECKS
OUTLETS BILGE
OUTLETS CAB
OUTLETS CABIN
OUTLETS CABIN AFT
OUTLETS CABIN FWD
OUTLETS CABIN HEAD
OUTLETS CABIN MID
OUTLETS CABIN PORT
OUTLETS CABIN STBD
OUTLETS CIRCUIT-B
OUTLETS COCKPIT
OUTLETS CREW
OUTLETS CREW HEAD
OUTLETS DECK
OUTLETS DECK AFT
OUTLETS DECK FWD
OUTLETS DECK PORT
OUTLETS DECK STBD

OUTLETS ENG ROOM
OUTLETS EXT AFT
OUTLETS EXT FWD
OUTLETS EXTERIOR
OUTLETS FLYBRIDGE
OUTLETS FWD
OUTLETS FWD HEAD
OUTLETS FWD LTS
OUTLETS FWD PORT
OUTLETS FWD STBD
OUTLETS GALLEY
OUTLETS GALLEY 1
OUTLETS GALLEY 2
OUTLETS GUEST CABIN
OUTLETS HEAD
OUTLETS INTERIOR
OUTLETS INVERTER
OUTLETS LAZARETTE
OUTLETS LEFT
OUTLETS LOUNGE
OUTLETS MAIN CABIN
OUTLETS MAIN DECK
OUTLETS MAST
OUTLETS MASTER CABIN
OUTLETS MID
OUTLETS MID STBD
OUTLETS NAV/ COM
OUTLETS PILOT HOUSE
OUTLETS PLUMBING BAY
OUTLETS PORT
OUTLETS PORT 1
OUTLETS PORT 2
OUTLETS PS
OUTLETS PS PORT
OUTLETS REAR
OUTLETS RIGHT
OUTLETS SALON
OUTLETS SALON PORT
OUTLETS SALON STBD
OUTLETS SALON/FWD
OUTLETS STAR
OUTLETS STATEROOMS
OUTLETS STBD
OUTLETS STBD 1
OUTLETS STBD 2
OUTLETS STORAGE BAY
OUTLETS STUDIO
OUTLETS WHEELHOUSE
OUTRIGGER
OUTSIDE FWD LTS
OUTSIDE LIGHTS
OUTSIDE PORT LTS
OUTSIDE STBD LTS
OVEN
OVEN # 2
OVER PRESSURE FAN
OVERHEAD ELEX
OVERHEAD LIGHTS
OWNER'S CABIN LIGHTS

P

PA SYSTEM
PAN/TILE
PAN/TILT
PANEL DIMMER
PANEL INSTRUMENT
PANEL LIGHTS
PANELTRONICS
PARALLEL
PARALLEL 12V
PARALLEL 24V
PARALLEL BUS A+B
PARKER PUMP #1
PARKER PUMP #2
PASS THROUGH WINDOW
PASSARALLE CONTROLS
PC PLOTTER
PEDESTAL POWER
PELCO
PERIMETER EQUIPMENT
PERMA PUB
PH OUTLET/ TV/ DVD
PHONE # 1
PHONE # 2
PICKUP LIGHTS
PILOT HOUSE LIGHTS
PILOT HOUSE SUPPLY
PILOTHOUSE RECEPTACLE
PIPE HEATER
PLASMA TV.
PLASMA TV. LIFT
PLATFORM LIGHTS
PLOTTER
PLOTTER LORAN
PORCH LIGHT
PORCH LIGHTS
PORT
PORT 1 100 AMPS
PORT 1 16 AMPS
PORT 1 30 AMPS
PORT 1 50 AMPS

PORT 100 AMPS
PORT 16 AMPS
PORT 2 100 AMPS
PORT 2 16 AMPS
PORT 2 30 AMPS
PORT 2 50 AMPS
PORT 30 AMPS
PORT 50 AMPS
PORT AFT GREY WATER
PORT ALT
PORT ARG
PORT BAITWELL 1
PORT BAITWELL 2
PORT BATTERY
PORT BLACK WATER
PORT BLOWER
PORT C/P STEP BOX
PORT CABIN A/C
PORT CHARGER LOWER
PORT CHARGER UPPER
PORT CONTROL ACTUATOR
PORT DC LIGHTS
PORT DIESEL
PORT DISPLAY
PORT DOCKING
PORT DOME LIGHTS
PORT EMERG STOP
PORT ENG ALARM
PORT ENG BATT CHRGE
PORT ENG CONTROL
PORT ENG RM BILGE PUMP
PORT ENG START
PORT ENG STRAINER
PORT ENGINE
PORT ENGINE BLOCK HEATER
PORT ENGINE IGNITION
PORT ENGINE ROOM
PORT FLOOD
PORT FRESH WATER
PORT FUEL BOOSTER PUMP
PORT FUEL FILL
PORT FUEL PRIMER
PORT FUEL TANK MONITOR
PORT FWD BILGE PUMP
PORT FWD FUEL
PORT FWD GREY WATER
PORT FWD SODIUM
PORT GEN
PORT HEAD FAN
PORT HOLDING TANK MONITOR
PORT HOUSE SODIUM
PORT HRP IND.
PORT HRP JOYSTICK
PORT HRP MAIN
PORT HYD CONTROL
PORT IGNITION
PORT INVERTER
PORT KITE REEL
PORT LIGHTS
PORT LINE 1
PORT LINE 2
PORT MAIN
PORT ON DECK LIVEWELL PUMP
PORT PILOT
PORT SOLE BOX BACKUP PUMP
PORT SUNROOF
PORT TEASER
PORT THRUST
PORT TRANSFORMER
PORT TRIM TABS
PORT WATER HEATER
PORT WATER TANK MONITOR
PORT/STBD POWER
PORTABLE APPLIANCE
POWER
POWER CONVERTER #1
POWER CONVERTER #2
POWER CONVERTER #3
POWER HELM SEAT
POWER WASHER
PRE HEAT PORT
PRE HEAT STBD
PREHEAT
PRELIMINARY
PRESSURE PUMP
PRIMARY FUEL PUMP
PRIMARY WINCH PORT
PRIMARY WINCH STBD
PRIMARY WINCHES
PRIME PUMP
PRINTER
PRODUCERS CONSOLE
PROP PITCH CONTROL
PROPULSION
PTO ENGAGED
PUMP
PUMP 2
PUMP FUSE BLOCK
PUMP OUT
PUMP RM BLOWER

Q

QUARTZ LIGHTS
QUARTZ LT FBRIDGE OUTL
QUARTZ LTS.AFT
QUARTZ LTS.FWD

R

RACK C OUTLETS
RACK D OUTLETS
RACK E OUTLETS
RACK F OUTLETS
RACK 1
RACK 2
RACK 3
RACK 4
RACK 5
RACK 6
RACK 7
RACK 8
RACK A FANS
RACK A/B CURB 2
RACK B
RACK B FANS
RACK C
RACK D
RACK E
RACK F
RACK G
RACK H
RACK OUTLETS
RACK SERVICE
RACKS
RADAR
RADAR 1
RADAR 2
RADAR ARCH LIGHT
RADAR/CHART PLOTTER
RADIO
RADIO 1
RADIO 2
RADIO 3
RADIO 4
RADIO 5
RADIO 6
RADIO 7
RADIO 8
RADIO AM/FM
RADIO CONTROL
RADIO LIGHTS
RADIO MEMORY
RADIO PA
RADIOS
RAIL LIGHTS
RANGE
RAW WASH DOWN
RAW WATER PUMP
RDF
RDT
READING LIGHTS
REAR A/C CONDENSER
REAR A/C EVAPORATOR
REAR AMBER
REAR AMPLIFIER
REAR COMMAND LIGHT
REAR DECK
REAR DECK SWIM LIGHTS
REAR DINETTE
REAR FLOODS
REAR LIGHTS
REAR LOUNGE
REAR LOUNGE HEATER
REAR MAST CAB CAMERA
POWER
REAR SCENE LIGHT
RECEIVER
RECEPTACLES
RECEPTACLES 1
RECEPTACLES 2 & 3
RED WHITE RED
RED / WHITE LIGHTS
RED DIESEL
RED LIGHTS MIDDLE
RED NIGHT LIGHTS
RED OH LIGHTS
REEL LIGHTS
REEL OUTLETS
REEL REWIND
REFRIDGE AFT DECK 3
REFRIG - FREEZER
REFRIG CREW
REFRIG SALON
REFRIG STEP BOX
REFRIGERATION
REFRIGERATOR
REFRIGERATOR 1
REFRIGERATOR 2
REFRIGERATOR 3
REFRIGERATOR AFT DECK
REFRIGERATOR BRIDGE
REFRIGERATOR DINING AREA
REFRIGERATOR DRAWER

REFRIGERATOR FISH BOX
REFRIGERATOR FLYBRIDGE
REFRIGERATOR LAUNDRY
REFRIGERATOR MASTER
REFRIGERATOR PILOT HOUSE
REFRIGERATOR PUMP
REFRIGERATOR STEP BOX
REFRIGERATOR UTILITY RM
REGULATOR
RELAY
RELAY CONTROL
REMOTE PNL RELAY COIL
RESPONSE LIGHTS
RETRACTABLE HELM
REVERSE FUEL TANKS
REVERSE POLARITY
REVISION
RFSEP LIGHTS
RH WINDSHIELD WIPER
RIGHT BLOWER
RIGHT BUNK CONVENIENCE
RIGHT CAB TELE LIGHT
RIGHT FUEL PRIMER PUMP
RIGHT OUTLETS
RIGHT REEL
RIGHT SCENE LIGHT
ROD LOCKER
ROOF
ROOF OUTLET
ROPE LIGHT
ROPE LIGHTS
RSEP LIGHTS
RUDDER INDICATOR
RUDDER LIGHTS
RUNNING LIGHTS
RUNNING LTS PORT
RUNNING LTS STBD

S

S/ S BATTERY CHARGER
SABRE CHARGER
SAFETY GND
SAFETY SYSTEM
SAILING CONTROLS
SAILING INSTRUMENTS
SAILING LIGHTS
SALON
SALON / EXTERIOR LTS
SALON / GALLEY LIGHTS
SALON A/C
SALON A/C 1
SALON A/C 2
SALON CABINET LIGHTS
SALON CEILING LIGHTS
SALON DOOR
SALON FWD LIGHTS
SALON HEAD RECEPTACLE
SALON LIGHTS
SALON LIGHTS PORT
SALON LIGHTS STBD
SALON OUTLET BLINDS
SALON OUTLETS PORT
SALON OUTLETS STBD
SALON PORT HEATER
SALON REFRIG
SALON STBD HEATER
SALON STEEP BOX
SALON STEREO
SALON WALL LIGHTS
SALON WINDOW LIFT
SALONG OUTLET BLINDS
SALT WATER
SALTWATER PUMP
SALTWATER WASHDOWN
SAT / NAV
SAT / NAV / GPS
SAT COM
SAT PHONE
SAT RADIO
SAT TV
SAT WEATHER
SATCOM-WFAX
SATELLITE DISH
SATELLITE PHONE
SATELLITE RADIO
SATELLITE SYSTEM
SCANNER
SCOPE
SCRUBBER
SEA WATER
SEA WATER PUMP
SEA WATER TEMP
SEAKEY
SEARCHLIGHT
SEARCHLIGHT 1
SEARCHLIGHT 2
SEARCHLIGHT HAND HELD
SEARCHLIGHT PORT
SEARCHLIGHT REMOTE
SEARCHLIGHT STBD
SEAT ADJUSTER

SECONDARY FUEL PUMP
SECURITY SYSTEM
SERVICE POWER
SERVICE RETURN
SET UP CHART
SEWAGE PUMP
SHAFT PUMP PORT
SHAFT PUMP STBD
SHORE
SHORE 1
SHORE 1 16 AMPS
SHORE 1 30 AMPS
SHORE 1 50 AMPS
SHORE 1 100 AMPS
SHORE 100
SHORE 2
SHORE 2 16 AMPS
SHORE 2 30 AMPS
SHORE 2 50 AMPS
SHORE 2 100 AMPS
SHORE 30
SHORE 50
SHORE CORD
SHORE CORD REEL
SHORE CORD REEL 1
SHORE CORD REEL 2
SHORE LINE 1
SHORE LINE 2
SHORE LINE 3
SHORE LINE PORT
SHORE LINE STBD
SHORE MAIN
SHORE MAIN / REV POLARITY
SHORE MAIN 100 AMPS
SHORE MAIN 16 AMPS
SHORE MAIN 30 AMPS
SHORE MAIN 50 AMPS
SHORE POWER
SHORE POWER DIRECT
SHORE POWER PORT
SHORE POWER STBD
SHORE PWR REV POLARITY
SHOWER DISCHARGE
SHOWER DRAIN
SHOWER PUMP
SHOWER PUMP AFT
SHOWER PUMP CREW
SHOWER PUMP CREWS
SHOWER PUMP FWD
SHOWER PUMP GUEST
SHOWER PUMP MASTER
SHOWER PUMP PORT
SHOWER PUMP STBD
SHOWER PUMPS
SHOWER STEAMER
SHOWER SUMP PUMP
SHOWER SUMP PUMP AFT
SHOWER SUMPS
SHUTDOWN VALVE
SIDE LIGHTS
SIMRAD
SINGGARS
SINK DRAIN
SIREN
SLIDEOUTS
SMOKE DETECTORS
SMORE ALARMS
SMU PWR & FAN
SOCKET 240V WINCH
SOCKET CABIN LINE 1
SOCKET WINCH LINE B
SOFFIT LIGHTS
SOLAR LIVEWELL
SOLAR LIVEWELL DRAIN
SOLAR PANEL
SONAR
SONAR DISPLAY
SOUNDER
SPA
SPA BOW
SPA OWNER
SPARE
SPARE 12 V
SPEC ALARM
SPEED / LOG
SPOTLIGHT
SPREADER LIGHTS
SPREADER LT MAIN
SPREADER LT MIZZEN
SPREADER LTS AFT
SPREADER LTS FWD
SSB
SSB 1
SSB 2
SSB / AMATEUR
SSB TUNER
SSB-VHF
STABILIZER
STABILIZER BLOWER
STAIR LIGHTS

STANDARD CUSTOM GALLEY
OUTLETS 2
START
START / STOP
START PORT
START STBD
STARTER BUTTON
STATEROOM LIGHTS
STATEROOM LIGHTS AFT
STATEROOM LIGHTS FWD
STATEROOM LIGHTS MASTER
STATEROOM LTS MAIN
STATEROOM LTS PORT
STATEROOM LTS STBD
STATEROOM OUTLETS
STATEROOM PANEL MAIN
STATEROOM PORT LIGHTS
STATIC INV OUTPUT
STBD
STBD 16 AMPS
STBD 30 AMPS
STBD 50 AMPS
STBD 100 AMPS
STBD 1 16 AMPS
STBD 1 30 AMPS
STBD 1 50 AMPS
STBD 1 100 AMPS
STBD 2 16AMPS
STBD 2 30 AMPS
STBD 2 50 AMPS
STBD 2 100 AMPS
STBD AFT GREY WATER
STBD ARG
STBD BAITWELL 1
STBD BAITWELL 2
STBD BATTERY
STBD BLACK BATTERY
STBD C/ P STEP BOX
STBD CHARGER 50/60 HZ
STBD CONTROL ACTUATOR
STBD DC LIGHTS
STBD DIESEL
STBD DISPLAY
STBD DOME LIGHTS
STBD EMERG STOP
STBD ENG ALARM
STBD ENG BATT CHRГ
STBD ENG CONTROL
STBD ENG HEATER
STBD ENG RM BILGE PUMP
STBD ENG START
STBD ENG STRAINER
STBD ENGINE
STBD ENGINE BLOCK HEATER
STBD ENGINE IGNITION
STBD FLOOD
STBD FRESH WATER
STBD FUEL BOOSTER PUMP
STBD FUEL PRIME
STBD FUEL TANK MONITOR
STBD FWD BILGE PUMP
STBD FWD FUEL
STBD FWD GREY WATER
STBD FWD SODIUM
STBD GEN
STBD GUEST
STBD HOLDING TANK MONITOR
STBD HOUSE DECK
STBD HRP IND
STBD HRP JOYSTICK
STBD HRP MAIN
STBD HYD CONTROL
STBD IGNITION
STBD INVERTER
STBD KITE REEL
STBD LIGHTS
STBD LINE 1
STBD LINE 2
STBD MAIN
STBD ON DECK LIVEWELL PUMP
STBD PILOT
STBD RELAY MODULE
STBD SOLE BOX BACKUP PUMP
STBD SOLE BOX LIVEWELL PUMP
STBD STATERM & TOILET BLWR
STBD STATERM & TOILET LTS
STBD SUNROOF
STBD TEASER
STBD THRUST
STBD TRANSFORMER
STBD TRIM TAB
STBD WATER TANK MONITOR
STEAMING LIGHT
STEAMING LIGHTS
STEERING 1
STEERING 2
STEERING FAST
STEERING HYD PUMP
STEERING SLOW
STEP COVER

STEP LIGHT
STEP LIGHTS WHEEL HOUSE
STEPWELL HEATER
STEREO
STEREO 12 V
STEREO AMPLIFIER
STEREO CREW CABIN
STEREO F/B
STEREO F/ROOM
STEREO FLYBRIDGE
STEREO FWD CABIN
STEREO MEMORY
STEREO P/ROOM
STEREO PORT CABIN
STEREO S/ROOM
STEREO STBD CABIN
STERN FLOODS
STERN LIGHT
STOP
STORAGE LIGHT
STOVE
STOVE SOLENOID
STOVE/ MICROWAVE
STREET SCENE LIGHTS
STREET SIDE COMM. OUTLET
STREET SIDE CONF. OUTLET
STREET SIDE FLOOD
STREET SIDE FLOODS
STRIP BUNK LIGHTS
STRIP LIGHTS
STROBE LIGHT
STUDIO
STUDIO CONVECTOR
STUDIO LIGHTS
STURDY
SUB PANEL
SUB PANEL AFT CABIN
SUB PANEL CIRCUIT A
SUB PANEL CIRCUIT B
SUB PANEL FEED
SUB PANEL FLY BRIDGE
SUB WOOFER
SUMP ALARM
SUMP PUMP
SUMP PUMP 1
SUMP PUMP 2
SUMP PUMP 3
SUMP PUMP 4
SUMP PUMP AFT
SUMP PUMP ENGINE RM
SUMP PUMP FWD
SUMP PUMP MANUAL
SUMP PUMP PORT
SUMP PUMP STBD
SUMP PUMPS
SUN ROOF
SUPPORT CONSOLE
SURVEILLANCE CAMERA
SURVEILLANCE CAMERA 1
SURVEILLANCE CAMERA 2
SWE-DISH DE-ICING
SWE-DISH HPA
SWIM PLATFORM
SYNCRO

T

TABLE LIFT UP/DOWN
TABS DOWN
TABS UP
TACKLE LIVEWELL
TACSAT AMP NO 1.
TACSAT AMP NO 2.
TANK ALARM
TANK MONITOR / RELAY
CONTROL
TANK MONITOR/RELAY
TANK MONITORS
TANK PUMP PORT
TANK PUMP STBD
TAPE DECK
TEASER REEL
TEASER REEL
TECHNICAL MAIN
TECHNICAL SYSTEM
TELEPHONE SYSTEM
TELEVISION FLYBRIDGE
TELEX
TEMP ALARM
TENSIONING SYSTEM
TEST
THERMAL IMAGE
THRUSTER
TIE BAR
TILLER LIGHT BAR
TINKS BRAIN
TINKS DRIVE
TOASTER
TOILET
TOILET AFT
TOILET BOW
TOILET FWD

TOILET MAIN
TOILET PORT
TOILET SALON
TOILET STBD
TOP DECK
TOP DECK # 1
TOP DECK # 2
TOTALIZER
TOW 1
TOW 2
TOW 3
TOWER
TOWER 12V SUPPLY
TOWER 24V SUPPLY
TOWER ELEX
TOWER LIGHTS
TOWER MAIN
TOWER POWER
TOWER SUPPLY
TOWER/MAST
TOWING LIGHTS
TRACK LIGHTS
TRAILER POWER
TRANSFER
TRANSFER PUMP
TRANSFORMER
TRANSFORMER PRIMARY
TRANSFORMER SECONDARY
TRANSMITTER 1
TRANSMITTER 2
TRANSOM BOX BACKUP PUMP
TRANSOM BOX LIVEWELL PUMP
TRANSOM LIVEWELL
TRANSOM LIVEWELL 1
TRANSOM LIVEWELL 2
TRASH COMPACTOR
TRICKLE CHARGER
TRI-COLOR LIGHT
TRIM TAB INDICATOR
TRIM TABS
TROLL
TROLLING VALVE
TUNA TUBES
TURBINE CONTROLS
TURNTABLE 1
TURNTABLE 2
TV
TV & STEREO CENTER
TV ANTENA
TV CAMERA 1
TV CAMERA 2
TV DOOR
TV LIFT
TV TRANSMITTER 1
TV TRANSMITTER 2
TV TRANSMITTER 3
TV/ SALON
TV/STEREO
TV/VCR

U

U/F AMP
U/F RECEPTACLES
UHF
UHF 1
UHF 2
UHF TV TRANSMITTER
UNDER COMP HEATER
UNDER FLOOR HEATER 1
UNDER FLOOR HEATER 2
UNDERCABINET LIGHT
UNDERCABINET LIGHTS
UNDERFLOOR HEATER
UNDERFLOOR OUTLETS
UNDERWATER CAMERA
UNDERWATER LIGHT
UNDERWATER LIGHT MID
UNDERWATER LIGHT PORT
UNDERWATER LIGHT STBD
UNDERWATER LIGHTS
UNDERWATER LTS 1
UNDERWATER LTS 2
UNDERWATER PHONE
UNITS IN
UNITS OUT
UP / DOWN
UPPER DECK
UPS A1
UPS A2
UPS A3
UPS No.1
UPS No.2
UPS No.3
UPS SYSTEM
UTILITY
UTILITY BILGE
UTILITY FRONT
UTILITY LTS
UTILITY MAIN
UTILITY REAR
UTILITY RM LIGHTS

UTILITY U/F
UV FILTER
UV WATER PURIFIER

V

V BERTH
VAC & SHOWER PUMP
VACUUM CLEANER
VACUUM PUMP
VALANCE LIGHTS
VANITY
VANITY LIGHTS
VBT FLOOD
VBT VENT
VCR
VCR 1
VCR 2
VEH. STROBES
VEI CPU
VEI SYSTEMS
VENTILATION
VENTS
VERTICAL THRUST
VESSEL MAP STATUS
VHF
VHF 1
VHF 2
VHF 3
VHF LD
VHF PH
VHF RADIOS
VHF/SSB
VHF/STEREO
VHF-HI TV TRANSMITTER
VHF-LO TV TRANSMITTER
VHS
VIAS CAPTAIN
VIAS ENG ROOM
VIAS FLYBRIDGE
VIAS MONITOR
VIAS WHEELHOUSE
VIDEO DEPTH
VIDEO PLOTTER
VIDEO PORTS
VIDEO RECORDER
VIDEO SCOPE
VIDEO SECURITY SYSTEM
VIDEO SOUNDER
VIDEO SPLITTER
VIDEO SYSTEM
VIDEOSCOPE CAMERA
VITAL BUS
VOLTAGE METERS

W

W/C LIFT
WALL LAMP
WARNING DRAWER
WARNING DRAWER
WASH DOWN
WASHDOWN PUMP
WASHER
WASHER/DRYER
WASTE PUMP
WASTE TREATMENT
WATCH ALARM
WATER
WATER ALARM
WATER FILTER
WATER GAUGE
WATER HEATER
WATER HEATER 1
WATER HEATER 2
WATER LEVEL
WATER MAKER
WATER MAKER 2
WATER MAKER ELECTRONICS
WATER MAKER PORT
WATER MAKER STBD
WATER PRES/ SHOWER SUMP
WATER PRESSURE
WATER PRESSURE 1
WATER PRESSURE 2
WATER PUMP
WATER TANK GAUGE
WATER TANK PUMP 1
WATER TANK PUMP 2
WATER TEMP
WATERMAKER ELECTRONICS
WEATHER
WEATHER FAX
WEATHER INSTR
WEBASTO BOILER
WELDER
WET ICE A/C
WHEELHOUSE BILGE
WHEELHOUSE FAN
WHEELHOUSE LIGHTS
WHEELHOUSE SUPPLY
WHIRLPOOL
WHITE DOME LTS
WHITE OH LIGHTS

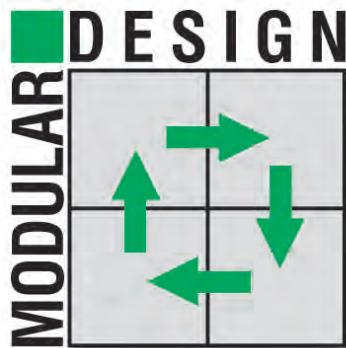
WI-FI
WINCH
WINCH CONTROLLER
WINCH LIGHTS
WINCH MID
WINCH PORT
WINCH STBD
WIND GENERATOR
WIND INSTR
WIND INSTRUMENT
WIND/DEP/SPD
WINDEX
WINDLASS
WINDLASS 12 V
WINDLASS BOW
WINDLASS COCKPIT
WINDOW ACTUATOR
WINDOW HEATER
WINDOW HEATER PORT
WINDOW HEATER STBD
WINDOW OPENER
WINDOW SHADE
WINDOW VENT
WINDSHIELD
WINDSHIELD VENT
WINDSHIELD WASH
WINDSHIELD WASHER
WINDSHIELD WIPERS
WINE CELLAR
WINE COOLER
WIPER
WIPER CENTER
WIPER MID
WIPER PORT
WIPER STBD
WIPERS
WIRELESS
WORK STATION
WORK/BACK-UP LIGTHS

Y

YELLOW 1
YELLOW 2
YELLOW 3
YEOMAN
Y-VALVE

Z

Z-GUARD



Modular Design

- Paneltronics panels are Modular in design
- Flexible designs to go high or wide
- Combine panels from different series to meet your specific requirements
- Custom blank panels can be made to incorporate additional components
- Panel groups are often mounted onto a custom hinged frame and enclosure
- Frame and enclosure mounted panel groups are shipped as a complete assembly

Our Technical Sales Representatives can help you with creative modular designs.



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3403	pg.14	9960016	pg.19	004-527	pg.30	111-312-TP	pg.36	206-140	pg.29	206-353S	pg.28
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4315	pg.10	9982204	pg.16	010-009	pg.30	206-038	pg.30	206-176	pg.29	289-049	pg.33
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4318	pg.11	9982301	pg.16	016-020	pg.30	206-041	pg.30	206-179	pg.29	289-053	pg.33
4320	pg.11	9982304	pg.16	016-021	pg.30	206-042	pg.30	206-180	pg.29	289-054	pg.33
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We manufacture products for:

Agricultural Equipment
Boats
Broadcast Vehicles
Buses
Communication Vehicles
Construction Equipment
Display & Merchandising Equipment
Emergency Vehicles
Fire Trucks
Generators
Golf & Turf Equipment
Hazmat Vehicles
Material Handlers
Mobile Command Post Vehicles
Motor Coaches
Off-Highway Vehicles
Portable Compressors
Specialty Vehicles
Utility Vehicles
Yachts

INCORPORATED

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