



SHORE POWER	4	CHARGERS	79	MARINE SYSTEMS MANAGEMENT	138
4 Marinc® Shore Power Systems		79 Charger Wiring Diagrams		138 CZone™ Digital Control & Monitoring	
6 Marinc® Power Inlets		80 Charge Pro Plus™		148 CZone™ Digital Control Accessories	
7 30 Amp/125V Inlets		82 Intelligent Charging System		152 Circuit Breaker Panels	
8 50 Amp/125V Inlets		83 Intelligent Charging System & ConnectCharge™		158 AC Circuit Breaker Panels	
9 50 Amp 125V/250V Inlets		84 Charge Pro™		161 Circuit Breakers	
10 Cable TV/Internet		87 Cruising Series		163 Panel Configurator	
12 Cordsets		89 Maintainers/Chargers		164 Monitoring	
13 Shore Power Adapters		90 Portable & International Chargers		166 Monitoring – Tank Level Senders	
18 30 Amp Devices		91 Battery Switches		167 Monitoring – Ultrasonic Tank Sender	
19 50 Amp Devices		92 System Wiring Diagrams		168 Monitoring – Gas Detectors	
20 15 Amp & 20 Amp Devices		94 Battery Isolators		169 Monitoring – Analog Gauges	
21 Accessories		95 Galvanic Isolators/Dynaplates		171 Sprayproof Switch Panels	
21 International Shore Power				174 Switch Panels	
23 100 Amp Devices		SPOTLIGHTS	96	175 Switches	
24 DC Connections		96 Beamer™ Remote Control Halogen Spot		176 Battery Management Panels	
25 DC Connections - SeaLink®		98 Stainless Steel Spot/Floods		177 Battery Distribution	
26 DC Connections - ConnectPro®		99 M-100 Halogen Spot		181 Voltage Sensitive Relays	
29 Boxes/Covers/Replacement Parts		99 Deck Lamps		182 Voltage Sensitive Relays – 12/24 V DC	
		100 Spotlight Accessories		183 Battery Distribution Clusters	
WIRE & WIRE MANAGEMENT	30	WIPERS & HORNS	101	187 Battery Control Center	
30 Technical Data		101 Wiper Motors		188 Remote Battery Management Systems – 12/24 V DC	
35 Wire & Cable		108 Wiper Arms		189 Contour Connect Panels	
42 Cable Assemblies		112 Wiper Arms & Blades Compatibility Chart		193 Contour Connect Components	
43 Connectors & Terminals		113 Wiper Blades		195 Accessories	
47 Lugs/Battery Terminals		115 Horns		197 Battery Distribution Accessories	
49 Adhesive Lined Heat Shrink Connectors		118 Compact Horns		203 Labels – Circuit Breaker Panels	
51 Adhesive Lined Heat Shrink Tubing		120 Trumpet Horns		205 Labels – Sprayproof/Battery Management Panels	
53 Wire Management		122 Surface Mount Horns		206 Labels – Battery Switches/Control Center/Contour Connect	
57 Lamps		MARINE ACCESSORIES .	124	207 Labels – Generation 2/Micro/ Interior Panels	
63 Switches & Circuit Breakers		124 Boarding Systems		208 Reference Charts	
64 Toggle Switches		126 Fillet Table		209 Custom panel template	
65 World Circuit Breakers		127 Rod Holders			
66 Accessories		129 Cockpit Accessories		INDEX	210
67 Fuses & Fuse Holders		130 Handrails			
69 Kits		130 Drinkholders			
TOOLS & TESTERS	73	VENTILATION	132		
73 Testers		132 Ventilation Basics			
75 Strippers		134 Solar Vents			
76 Cutters & Strippers		135 Cowl Vents			
77 Crimpers		136 Clam Vents			
78 Torches		136 Deck Plates			
		137 Fans			

MARINCO®

Welcome to the first Marinco catalog that brings all of our products under two covers. In the past, all of our different categories of products appeared in five different catalogs. The catalog you now hold in your hands – or are reading online – divides our products up into categories to make selecting the proper parts much easier.

A lot has changed at Marinco in the past year. We have moved our headquarters from Napa, California to the new offices of our long-time parent company, Actuant Electrical, in Menomonee Falls, Wisconsin. There are a lot of positives that come along with this move for our customers. Our new, state of the art Distribution Center is housed in the same building from which we work. Our Product Development team has access to the deep Actuant Electrical engineering, quality and development teams. Our marketing teams have already begun working with Actuant's merchandising team to create better, more informative packaging for our products. Our new training facility will play host to the people who sell and service our products, providing a better ownership experience for you, our customer. Finally, our marketing communications team worked hundreds of hours creating this more useful, informative catalog for all of our customers.

Our ultimate goal is to create the highest quality products so that you can have the safest, most enjoyable boating experience possible.

Enjoy your catalog and stay safe on the water!

Your Marinco team.





DOCKSIDE PRODUCTS

CORDSETS

MARINE RECEPTACLES

Corrosion resistant reinforced nylon construction

WEATHERPROOF COVERS

Yellow LEXAN® polycarbonate with lift lid, for use with Marinco receptacles

MALE PLUGS

Superior strain-relief system. Dust seal keeps contaminants out of terminals

WEATHERPROOF COVERS

Heavy duty vinyl construction, use with male plugs for superior seal

SHORE POWER CORD SETS

Marine Grade cable, watertight molded plug and connector, line-up ridge for easy blade alignment

<p>30A 125V 2 Pole 3-Wire Locking</p>	<p>305CRR</p>	<p>7420CR</p>	<p>305CRPN</p>	<p>102N</p>	<p>50SPP</p>
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<p>50A 125V 2 Pole 3-Wire Locking</p>	<p>6370CR</p>	<p>7788CR</p>	<p>6361CRN</p>	<p>7717N</p>	<p>6153SPP</p>
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<p>50A 125/250V 3 Pole 4-Wire Locking</p>	<p>6369CR</p>	<p>7788CR</p>	<p>6365CRN</p>	<p>7717N</p>	<p>6152SPP</p>
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<p>CABLE TV/ INTERNET</p>	<p>TV97</p>	<p>PH6623</p>	<p>TVHD</p>
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MARINCO® COLOR CODING SYSTEM

products for 15AMP	products for 20AMP	products for 30AMP	products for 50AMP 125V	products for 50AMP 125V/250V
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LEXAN® is a registered trademark of Sabic Innovative Plastics IP B.V., Netherlands

SHORE POWER SYSTEMS

BOATSIDE PRODUCTS

WEATHERPROOF COVERS

Feature heavy duty vinyl construction, use with female connector for superior seal.

FEMALE CONNECTORS

Features ribbed nylon construction, color coded terminal pockets and screws.

POWER INLETS

Styled to complement any boat, Marincó® power inlets are simple to install and feature a protective rear safety enclosure that provides safe, reliable strain relief

103RN



305CRCN



303SSEL-B



301EL-B



304EL-B



7715CRN



6360CRN



6371EL-B



6351EL-B



6343EL-B



7715CRN



6364CRN



6373EL-B



6353EL-B



6344EL-B



PH6624



TV6592



TV6574



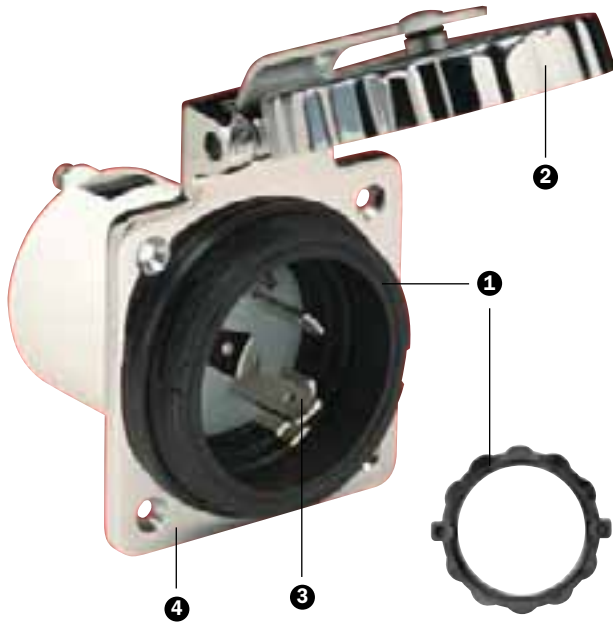
TV644



For more information visit us at: marinco.com

800.307.6702 • marinco.com

MARINCO® POWER INLETS



Marinco® Power Inlets are the industry standard. Offered in three styles, they all feature robust construction and corrosion-resistant materials for long life in the harsh marine environment. Each has technical features that make them easy to install and a pleasure to use for the marine professional or the casual recreational boater.

① Easy Lock™ – Marinco's exclusive Easy Lock™ System has been designed to make hook-up quick and easy. Just connect the cordset (with an Easy Lock™ locking ring installed) to the inlet and turn the locking ring less than a quarter turn. The tabs on the locking ring lock into the inlet for a positive watertight hook-up while eliminating any chance of cross threading. The locking ring features lock locators positioned at 180° to improve finger grip during attachment.

Easy Lock™ inlets have a threaded boss that will accept threaded cordsets as well. The Easy Lock™ system is a standard feature on some Marinco® 30 Amp and 50 Amp inlets and cordsets.

② The covers on all Marinco® inlets are designed to stay hinged open when the cover is lifted up. This allows the boater to connect their Marinco® shore power cord while the cover remains open and out of the way. A soft touch unlocks it for closing.

③ Blades are nickel plated brass for maximum corrosion resistance.

④ Interior hardware is marine-grade stainless steel.

Rear Enclosure

- Made of flame-resistant UL94V0 plastic.
- All rear enclosures are glass-filled polyester for strength.
- Integral strain relief complies with ABYC requirements.
- Multiple positions allow for maximum installation flexibility.



Stainless

Marinco® stainless steel inlets are solid cast marine grade 316 stainless steel and include a heavy duty cap strap for strength and durability.



Contoured

Marinco® contoured inlets feature UV stabilized glass-filled polyester construction for long-lasting strength.



Standard

Marinco® standard inlets feature UV stabilized glass-filled polyester construction for long-lasting strength.

30 AMP/125V INLETS



Description	Item # / OEM #
Stainless Steel	
 Stainless Steel Power Inlet	303SSEL-B _____ 303SSEL-B.OEM
Contour	
 Contoured Chrome Power Inlet Chrome finish cover	304EL-BCR _____ 304EL-BCR.OEM
 Contoured Power Inlet w/ Stainless Steel Trim	304EL-B _____ 304EL-B.OEM
 Contoured Power Inlet w/out Stainless Steel Trim	304EL-B.NT _____ Δ
Standard	
 Power Inlet w/ Stainless Steel Trim	301EL-B _____ 301EL-B.OEM
 Power Inlet w/out Stainless Steel Trim and w/ ABYC Shore Power Warning Label on cap	301EL-B.W/L _____ Δ
Outlet	
 Stainless Steel Power Outlet w/ Female 30A 125V configuration	303SSO _____ Δ

Δ OEM Bulk Pack not available

50 AMP/125V INLETS



NEMA SS-1



50A 125V Locking






Stainless



Contour



Standard

Description	Item # / OEM #
Stainless Steel	
 Stainless Steel Power Inlet	6371EL-B
	6371EL-B.OEM
 Stainless Steel Power Inlet w/out rear safety enclosure	6371EL
	6371EL.OEM
Contour	
 Chrome Power Inlet – Chrome finish cover	6343EL-BCR
	Δ
 Contoured Power Outlet w/ Stainless Steel Trim	6343EL-B
	Δ
Standard	
 Power Inlet w/ Stainless Steel Trim w/out rear safety enclosure	6351EL
	Δ
 Power Inlet w/out Stainless Steel Trim and w/ ABYC Shore Power Warning Label on cap	6351EL-B
	Δ

Δ OEM Bulk Pack not available

There are two categories of 50A devices: 50A 125V (50A 3-wire) and 50A 125/250V (50A 4-wire). The 4-wire devices have two “hot” legs, each carrying 50A 125V. These two categories are not interchangeable. A 3-wire plug must never be altered to insert into a 4-wire connector or receptacle.

50 AMP 125V/250V INLETS



NEMA X
SS-2



Stainless



Contour



Standard

Description	Item # / OEM #
Stainless Steel	
 Stainless Steel Power Inlet	6373EL-B 6373EL-B.OEM
 Stainless Steel Power Inlet w/ out rear safety enclosure	6373EL 6373EL.OEM
Contour	
 Chrome Power Outlet Chrome finish cover	6344EL-BCR Δ
 Contoured Power Outlet w/ Stainless Steel Trim	6344EL-B 6344EL-B.OEM
 Contoured Power Outlet w/out Stainless Steel Trim	6344EL-B.NT Δ
Standard	
 Power Inlet w/ Stainless Steel Trim	6353EL-B 6353EL-B.OEM
 Power Inlet w/ Stainless Steel Trim w/out rear safety enclosure	6353EL Δ

Δ OEM Bulk Pack not available

There are two categories of 50A devices: 50A 125V (50A 3-wire) and 50A 125/250V (50A 4-wire). The 4-wire devices have two "hot" legs, each carrying 50A 125V. These two categories are not interchangeable. A 3-wire plug must never be altered to insert into a 4-wire connector or receptacle.

CABLE TV/INTERNET

Cable TV/Internet Inlets

Stainless Steel



Stainless Steel Phone & Cable TV Inlet

PH6592TV-SS

PH6592TV-SS.OEM



Stainless Steel Cable TV/Internet Inlet

TV6592

TV6592.OEM

Contour



Contoured Phone & Cable TV Inlet

PH6444TV

PH6444TV.OEM



Contoured Phone & Cable TV Inlet w/ chrome finish cover

PH6444TVCR

Δ



Contoured Cable TV/Internet Inlet

TV6444

TV6444.OEM

Standard



Standard Phone & Cable TV Inlet

PH6574TV

PH6574TV.OEM



Standard Cable TV/Internet Inlet

TV6574

TV6574.OEM

Δ OEM Bulk Pack not available

NEW HDTV/Internet Cable

Our new cordset is ready for HDTV and high-speed internet access. It features a 75 ohm, 3GHz RG6 Quad Shield cable with gasket sealed, weather proof F-type connections on both ends.



Length	Color	Item #
50 ft.	Yellow	TVHD

Combo TV/Phone Cordset

Both cables are jacketed together. Telephone and TV connections are molded on each end. Features 18" of spliced cable at dockside for connections which are in separate power centers.











Length	Color	Item #
50 ft.	Yellow	PHTV6599
25 ft.	Yellow	PHTV6599-25
50 ft.	White	PHTV6599W

Telephone Cordset

3 conductor #16SJTO vinyl cord provides portable telephone connection for RV's and pleasure boats.



Length	Color	Item #
50 ft.	Yellow	PH6599
25 ft.	Yellow	PH6599-25
50 ft.	White	PH6599W

	Description	Item # / OEM #
Plug, Connector, and Adapters		
	Male Phone Plug w/ MARINEGUARD II Cover	PH6623 Δ
	Female Phone Plug w/ MARINEGUARD II Cover	PH6629 Δ
	Adapter Use to hook up telephone to cordset PH6599. No inlet installation required.	PH6600 Δ
	Adapter Use to hook up a locking type inlet to a modular telephone connection.	PH6601 Δ
Dockside Accessories		
	Cable TV Outlet Spring-loaded lift cover Weatherproof closure Fits FS & FD boxes	TV97 TV97.OEM
	Telephone Outlet Spring-loaded lift cover Weatherproof closure Fits FS & FD boxes	PH6597 Δ
	Telephone & Cable TV Outlet Spring-loaded lift cover Fits FS & FD boxes	PH6597TV PH6597TV.OEM
	FS Box Use with PH6595 inlet and PH6597TV, PH6597TV outlets With cord grip and PVC adapter	PH6619 Δ

Δ OEM Bulk Pack not available

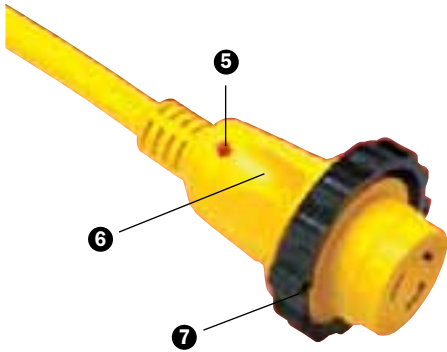
CORDSETS

All Marinc® cordsets are made of the highest quality, marine-grade construction with features you won't find on other power cords.

- 1 Watertight molded plug and connector for safety and durability
- 2 Heavy duty, super flexible marine-grade cable (30 Amp 10 gauge, 50 amp 6 gauge)
- 3 All models include a standard threaded ring for hook-up to ordinary threaded inlets
- 4 Corrosion resistant, nickel plated contacts

PowerCord Plus® models only:

- 5 **Power Indicator Light:** Boatside connector features a molded-in LED light. When it glows red, you know you have power to the boat.
- 6 **Contour Grip with Thumbprint Locator:** Both plug and connector ends are molded to fit the contour of your hand. When the thumbprint is in the 12 o'clock position, the blades line up for easy connection.
- 7 **Marinc's Easy Lock™ system:** quickly locks the cord set to the inlet in just 1/8 of a turn. The exclusive locking tabs engage slots built into all Marinc® inlets.



6 Contoured Grip



7 Easy Lock™



Length Color Pkg Item # OEM #

30 Amp Power Cord™ Cordsets

25 ft.	Yellow	sleeve pack	25PCM2	25PCM.OEM
25 ft.	White	sleeve pack	25PCMW2	Δ
35 ft.	Yellow	sleeve pack	35PCM	Δ
50 ft.	Yellow	sleeve pack	50PCM2	50PCM.OEM
50 ft.	White	display box	50PCMW2	50PCMW.OEM

30 Amp Power Cord Plus® Cordsets w/ Power-On LED

50 ft.	Yellow	box	50SPP	50SPP.OEM
50 ft.	White	box	n/a	50SPPW.OEM



50 Amp 125 Volt Power Cord Plus® Cordsets (3-Wire)

25 ft.	Yellow	box	6153SPP-25	Δ
50 ft.	Yellow	box	6153SPP	Δ
50 ft.	White	box	6153SPPW	Δ

50 Amp 125/250 Volt PowerCord Plus® Cordsets (4-Wire)

12 ft.	Yellow	box	6152SPP-12SC	Δ
25 ft.	Yellow	box	6152SPP-25	Δ
25 ft.	White	box	6152SPPW-25	Δ
50 ft.	Yellow	box	6152SPP	Δ
50 ft.	White	box	6152SPPW	Δ



Δ OEM Bulk Pack not available



6153SPPW



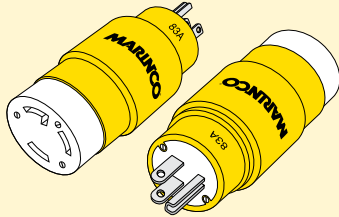
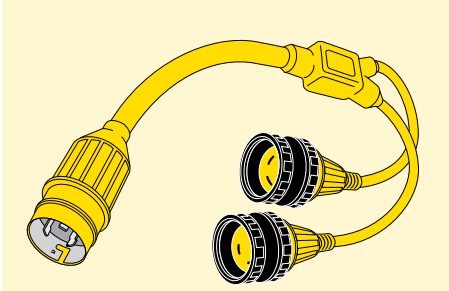
6152SPP



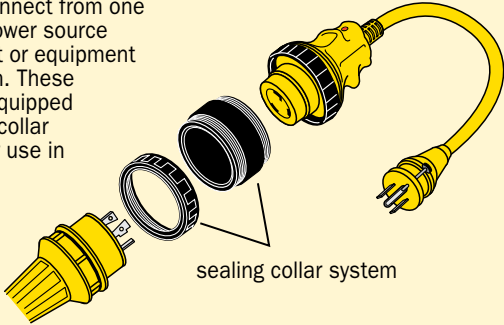
The Marinc® Shore Power Adapters give you more power hook-up flexibility and resolve a variety of dockside power center / boat side inlet power incompatibility problems.

Types of Adapters

Straight Adapters are high-quality, one-piece adapters similar in usage to Pigtail Adapters. However, they do not have sealing collars and are not recommended for use in wet locations. Use only in an enclosed, dry location, such as powering your boat from a 15A power receptacle inside your house.

Pigtail Adapters allow you to connect from one dockside receptacle (or other power source receptacle) to one boatside inlet or equipment of dissimilar power configuration. These adapters are fully molded and equipped with Marinc®'s unique sealing collar (where indicated) and covers for use in wet locations.




“Y” Adapters let you split one dock side receptacle between two boat inlets of similar or dissimilar power configurations. “Y” Adapters are fully molded and equipped with Marinc®'s unique sealing collar and covers (where indicated) for use in wet locations.


The Reverse “Y” Adapter (Part No. RY504-2-30) provides your boat with 50A 125/250V power from two 30A 125V locking dockside receptacles.

Choosing the Correct Adapter

1 Boat Side - Identify your boat's Inlet Electrical System




The voltage and amperage should be printed on the outside cover of your existing boat inlet(s)




Check the blade orientation of the various inlets pictured and compare to your boat inlet(s)

50A 125V



The voltage and amperage should be printed inside the boat Inlet(s) next to the blades




30A 125V

50A 125/250V


Pay special attention to the differences in the 50A 125V and the 50A 125/250V. The blades look similar, but they are different. The plugs and receptacles for these systems are NOT interchangeable!!

Notice the additional grounding blade on the 50A 125/250V inlets.


2 Identify the Dock Side Power Source




20A 125V Locking



50A 125V Locking



30A 125V Locking



50A 125/250V Locking

IMPORTANT 50 AMP INFORMATION:
If you are connecting to 50A dockside power service, it is **CRITICAL** to know the dockside receptacle's voltage rating (50A 125V or 50A 125/250V). An adapter designed for 50A 125V will not plug into a dockside receptacle rated for 50A 125/250V service, and vice versa.

3 Choose a Marinc® Adapter from page 14-17

Match your boat side inlet(s) to the appropriate dock side receptacle or other power source. Adapter ends are color coded for easier selection.

SHORE POWER ADAPTERS

Straight Adapters

Item #

80A



81A



83A



84A



BOAT SIDE

FEMALE CONNECTOR
Attaches to boat inlet
or cordset

15 or 20A 125V
Straight Blade



15 or 20A 125V
Straight Blade



30A 125V
Locking



30A 125V
Locking



DOCK SIDE

MALE PLUG
Attaches to dockside
receptacle or cordset

20A 125V
Locking



30A 125V
Locking



15A 125V
Straight Blade



20A 125V
Locking



When using any adapter remember:

1. Outlet and equipment must be of the same voltage rating.
2. Total amperage drawn should not exceed amperage rating of the lowest rated component of the adapter.
3. Polarity and grounding must be maintained both dock side and boat side.
4. A single cordset should only draw power from a single receptacle.

Pigtail Adapters

These adapters are equipped with covers and sealing collars (where indicated), and are for use in wet locations.

104SPP

Features an LED Power-on indicator and thumbgrip locator



105SPP

Features a power-on indicator and thumbgrip locator



BOAT SIDE

FEMALE CONNECTOR
Attaches to boat inlet
or cordset

30A 125V
Locking w/ Sealing
Collar System



15A 125V
Straight Blade



DOCK SIDE

MALE PLUG
Attaches to dockside
receptacle or cordset

15A 125V
Straight Blade
w/ Locking Screw



30A 125V
Locking



Pigtail Adapters

Item #

BOAT SIDE

FEMALE CONNECTOR
Attaches to boat inlet
or cordset

DOCK SIDE

MALE PLUG
Attaches to dock side
receptacle or cordset

110A



30A 125V
Locking w/ Sealing
Collar System



50A 125V
Locking

111A



50A 125V
Locking w/ Sealing
Collar System



30A 125V
Locking

115A



50A 125V
Locking w/ Sealing
Collar System



15 125V
Straight Blade
w/ Locking Screw

117A



50A 125/250V
Locking w/ Sealing
Collar System



30A 125V
Locking

118A



50A 125/250V
Locking w/ Sealing
Collar System



50A 125V
Locking

121A



30A 125V
Locking w/ Sealing
Collar System



50A 125/250V
Locking

123A



50A 125V
Locking w/ Sealing
Collar System



50A 125/250V
Locking

SHORE POWER ADAPTERS

“Y” ADAPTERS

These adapters are equipped with covers and sealing collars (where indicated), and are for use in wet locations.

Item #



152AY



153AY



154AY



157AY



162AY



165AY



RY504-2-30

BOAT SIDE

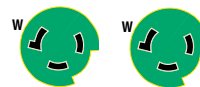
FEMALE CONNECTOR
Attaches to boat inlet or cordset



2-30A 125V Locking w/ Sealing Collar System



2-30A 125V Locking w/ Sealing Collar System



2-50A 125V Locking w/ Sealing Collar System



2-30A 125V Locking w/ Sealing Collar System



2-50A 125V Locking w/ Sealing Collar System



2-50A 125/250V Locking w/ Sealing Collar System



50A 125/250V w/ Sealing Collar System

DOCK SIDE

MALE PLUG
Attaches to dockside receptacle or cordset



50A 125V Locking



50A 125/250V Locking



50A 125/250V Locking



30A 125V Locking



50A 125V Locking



50A 125/250V Locking



2-30A 125V Locking

The Reverse “Y” Adapter (RY504-2-30) has two male plugs with special power isolation circuitry for added safety. When one plug is connected to a receptacle, the circuitry isolates the second plug. The reverse “Y” provides 50A 125/250V power when only 30A 125V receptacles are available.

Note: Reverse “Y” will NOT work with 50A, 125V, 3-wire inlets. Power is provided in both circuits to the 4-wire inlet, but the dock side receptacles limit the current in each circuit to 30A. The two 30A 125V receptacles must be supplied from a single power source providing from 208V to 250V between them for proper operation.

Right Angle Adapters

Item #

1RPC
(30 Amp)

1RPC50
(50 Amp)



BOAT SIDE

FEMALE CONNECTOR
Attaches to boat inlet
or cordset

30A 125V
Locking w/ Sealing
Collar System



50A 125/250V
Locking w/ Sealing
Collar System



DOCK SIDE

MALE PLUG
Attaches to dockside
receptacle or cordset



GalvanAlert® Shore Power Corrosion Detector

G30



BOAT SIDE

30A 125V
Locking w/ Sealing
Collar System



DOCK SIDE



The world's only shore power corrosion detector with reverse polarity indicator. GalvanAlert® easily attaches to your existing 30A shore power inlet and cordset to constantly monitor unsafe corrosion activity or a reverse polarity condition.

- Can save you thousands of dollars in potential corrosive damage to your boat
- Detects reverse polarity that can create a shock or fire hazard

How does GalvanAlert® work?

GalvanAlert incorporates sensor-based technology that monitors unsafe galvanic or stray current corrosion flowing through the green ground wire of your shore power system.

Why GalvanAlert® if I have a galvanic isolator?

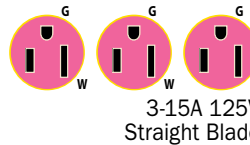
Galvanic isolators only protect against galvanic action. They will not block corrosion currents driven by more than 1.5 volts that can be highly destructive to your boat. GalvanAlert® will detect such currents so you can protect your boat in instances where galvanic isolators do not.

Dockside 30A to 15A Adapter with GFI

199128



BOAT SIDE



DOCK SIDE



- Provides safer hook-up to 30A dockside power
- Provides protection against harmful electric shock
- Reduces the possibility of fire
- Offers protection for up to 3 attached tools
- Corrosion resistant and rain-proof rated for outdoor use

- GFI trip level of 4-6 mA
 - Can also be used for other outdoor, harsh environments such as construction sites or wherever ground fault protection is desired.
- Note: A Ground Fault Circuit Interrupter (GFCI) limits the duration of an electrical shock to a period considered safe for healthy people. It does not prevent electric shock. This device does not protect against electric shock due to contact with both circuit conductors or a fault in any wiring supplying this device.

30 AMP DEVICES

Description	Item # / OEM #
Plugs & Connectors	



Male Plug

305CRPN

305CRPN.OEM



Female Connector

305CRCN

305CRCN.OEM



Male Plug with contoured weather resistant cover

305CRPN.VPK

Δ



Female Connector has weather resistant cover w/ threaded ring and Easy Lock™ sealing ring

305CRCN.VPK

Δ

Description	Item # / OEM #
Locking Receptacles	



Yellow Receptacle Corrosion resistant reinforced nylon construction

305CRR

305CRR.OEM



Black Receptacle Corrosion resistant reinforced nylon construction

305CRRB

305CRRB.OEM

Description	Item # / OEM #
Weatherproof Covers	

Weatherproof Cover w/ threaded ring
Use with 305CRCN or 205CRCN**103RN**

103RN.OEM

Weatherproof Cover w/ Easy Lock™ Ring
Use with 305CRCN or 205CRCN**103ELN**

Δ

Weatherproof Cover
Use with 305CRPN or 205CRPN**102N**

Δ

Description	Item # / OEM #
Sealing Collars	

Easy Lock™ Ring
Use with 30 Amp Inlets**100EL**

Δ

Threaded Ring
Use with 30 Amp Systems**100R**

Δ

Sealing Collar with Threaded Ring
Provides maximum moisture protection between cordset & adapter
Use with 20 & 30 Amp locking systems**110R**


Δ

Δ OEM Bulk Pack not available

Description **Item # / OEM #**



Plugs & Connectors 50A 125V

	Male Plug; 2 Pole, 3 Wire	6361CRN
		Δ


	Female Connector; 2 Pole, 3 Wire	6360CRN
		6360CRN.OEM

Plugs & Connectors 50A 125V/250V


	Male Plug; 3 Pole, 4 Wire	6365CRN
		6365CRN.OEM

	Female Connector; 3 Pole, 4 Wire	6364CRN
		6364CRN.OEM

Receptacle 50A 125V

	Wire Dockside Receptacle; 2 Pole, 3 Wire	6370CR
		Δ

Receptacle 50A 125V/250V

	Wire Dockside Receptacle; 3 Pole, 4 Wire	6369CR
		6369CR.OEM

Description **Item # / OEM #**

Weatherproof Covers


	Weatherproof Cover w/ threaded ring	7715CRN
	Use with 6360CRN or 6364CRN	7715CRN.OEM


	Weatherproof Cover w/ Easy Lock™ Ring	7715ELN
	Use with 6360CRN or 6364CRN	7715ELN.OEM

	Weatherproof Cover	7717N
	Use with 6361CRN or 6365CRN	7717N.OEM

	Weatherproof Cover	102182
	Use with 6361CRN or 6365CRN	Δ

Sealing Collars

	Easy Lock™ Ring	500EL
	Use with 50 Amp Inlets	Δ

	Threaded Ring	500R
	Use with 50 Amp Systems	500R.OEM


	Sealing Collar with Threaded Ring	510R
	Provides maximum moisture protection between cordset & adapter.	Δ
	Use with 50A only systems	

Δ OEM Bulk Pack not available

15 AMP & 20 AMP DEVICES


Description	Item # / OEM #
15 Amp/125V Straight Blade	

	Male Plug	5266CR
		Δ


	Female Connector	5269CR
		Δ

15 Amp/125V Locking Type	
---------------------------------	--


	Male Plug	4721CR
		Δ


	Female Connector	4731CR
		Δ

Receptacles	
--------------------	--

	Duplex Receptacle – Locking	4700CR
		Δ

	Duplex Receptacle – Straight Yellow	5262CRR
		Δ


	Duplex Receptacle – Straight Gray	5262CRR.GRY
		Δ


	Ground Fault Circuit Interrupter (GFCI) Ivory	1591-FI 1591-FI.OEM
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	Ground Fault Circuit Interrupter (GFCI) White	1591-FI.WHT 1591-FI.WHT.OEM
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CAUTION: Ground Fault Circuit Interrupter protection is required when using electrical products outdoors or near water. GFCI Protection is required by the ABYC where a receptacle is in a head, galley, machinery space or weather deck.


Description	Item # / OEM #
20 Amp/125V Straight Blade	


	Male Plug	5366CR
		Δ

	Female Connector	5369CR 5369CR.OEM
--	------------------	-----------------------------


20 Amp/125V Locking Type	
---------------------------------	--


	Male Plug Uses weatherproof cover 102N	205CRPN
		Δ

	Female Connector Uses weatherproof cover 103RN	205CRCN
		Δ

	Male Plug – short housing with internal strain relief and recessed fasteners	205BP
		Δ


Waterproof Covers	
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	Weatherproof Cover Use with 5366CR or 5266CR plugs	6017Y
		Δ

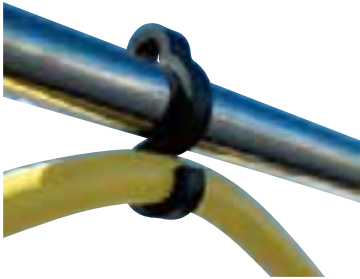
	Weatherproof Cover Use with 5369CR or 5269CR plugs	6018Y
		Δ

	Weatherproof Cover	Δ 1520BI.OEM
--	-----------------------	-----------------

Receptacles	
--------------------	--

	Receptacle – Locking	205CRR
		Δ

Δ OEM Bulk Pack not available



Shore Power Cord Clips

- For 30A cords
- Organize shore power cords quickly and easily
- Fits 30A cordsets securely
- Can be used on tube or wire rails
- Packaged as set of 6 clips
- UV stable
- Practically unbreakable

Item # CLIP-01 (BLACK)



Cable Clips

- Includes 6 Cable Clips with stainless steel mounting screws
- Keeps shore power cable out of the water
- Holds 10 gauge 30A cable
- Easy to install
- Use on deck or edge of dock
- Organize shore power cable

Item # CLIP



Organizer Bag

- Heavy duty nylon zippered bag with handle
- Ideal for storing cordsets and adapters

Item # BAG

Shore Power Cord Sleeve

- Keep shore power cables neat and bundled
- Holds 50A or 30A cordsets, can hold multiple cables
- UV resistant, machine washable marine grade fabric

Item # ZIP-01 (BLACK)



Marinco® Locking Shore Power Cordsets

- H07BQ-F 3G2,50mm2 Harmonized Cable
- IEC 60309 plug 2P+E [6H], 250V/50Hz
- Watertight connector sealing cap for CE compliance



16A Cordset

- NEMA L5-30 moulded connector with LED power indicator light



32A Cordset

- NEMA SS-1 moulded connector with LED power indicator light

Amp	Length	Color	Item #
16 Amp	25 meters	Yellow	25MSPPXP
16 Amp	20 meters	Yellow	20MSPPXP
16 Amp	15 meters	Yellow	15MSPPXP
16 Amp	10 meters	Yellow	10MSPPXP
16 Amp	1 meter	Yellow	1MSPPXP
32 Amp	15 meters	Yellow	15M32AXP
32 Amp	1 meters	Yellow	1M32AXP

INTERNATIONAL SHORE POWER

Power Inlets

**Stainless Steel**

- 316 Stainless Steel
- Easy Lock™ System
- Soft Touch cap design
- Rear safety enclosure with strain relief

**Standard**

- Easy Lock™ System
- Glass-filled polyester
- Watertight
- Rear safety enclosure with strain relief

**Contour**

- Easy Lock™ System
- Glass-filled polyester
- Watertight
- Rear safety enclosure with strain relief

Description	Amps	Item # / OEM #
Stainless Steel Shore Power Inlet	16 Amp	303SSEL-BXPK 303SSEL-BX
	32 Amp	6371EL-BXPK 6371EL-BXPK
Single Phase, 3-wire	63 Amp	6401EL-BX
Three Phase, 4-wire	63 Amp	6402EL-BX

Description	Amps	Item # / OEM #
Contour Shore Power Inlet	16 Amp	301EL-BXPK 301EL-BXPK
	32 Amp	n/a 6351EL-BX

Description	Amps	Item # / OEM #
Standard Shore Power Inlet	16 Amp	n/a 304EL-BX
	32 Amp	6371EL-BXPK 6343EL-BX

Shore Power Components

Female Connector

- Corrosion resistant contacts and terminals



Amps	Use with:	Item # / OEM #
16 Amp	cover 103RN and cap 199109	305CRCXNPK 305CRCXN
32 Amp	cover 7715CRN and sealing cap 19911	6360CRNPK 6360CRNX

Female Connector 63 Amp/220V

- Corrosion resistant contacts and terminals



Amps	Description	Item # / OEM #
63 Amp	Single Phase, 3-wire	6401CRCX n/a
63 Amp	Three Phase, 4-wire	6402CRCX n/a

Male Connector 63 Amp/220V

- Corrosion resistant contacts and terminals



Amps	Description	Item # / OEM #
63 Amp	Single Phase, 3-wire	6401CRPX n/a
63 Amp	Three Phase, 4-wire	6402CRPX n/a




Weatherproof Cover w/ Threaded Ring





Amps	Use with:	Item # / OEM #
16 Amp	305CRCXN	103RNPK 103RNX
32/63 Amp	6360CRNX, 6401CRCX, 6401CRPX, 6402CRCX, or 6402CRPX	7715CRNPK 7715CRNX

Watertight Connector Cap




Amps	Use with:	Item # / OEM #
16 Amp	cover 103RN and connector 305CRXN to ensure CE compliance	199109PK 199109
32 Amp	cover 103RN and connector 305CRXN to ensure CE compliance	199110PK 199110

100 Amp 125V/250V 3 Pole 4-Wire

Description	Item # / OEM #
Plugs & Connectors	
 <p>Plug – w/ gasketed locking ring Mate with M4100R12 Receptacle</p>	<p>M4100P12</p> <p>Δ</p>
 <p>Connector Body Mate with plug on extension cords or adapters. Note: It does not mate with shore power inlet.</p>	<p>M4100C12</p> <p>Δ</p>
 <p>Connector Body – w/ gasketed locking ring Mate with M4100B12R Inlet</p>	<p>M4100C12R</p> <p>Δ</p>

Inlets & Receptacles	
 <p>Dockside Receptacle – w/ spring loaded cover providing a IP67 watertight rating when tightened.</p> 	<p>M4100R12</p> <p>Δ</p>
 <p>Shore Power Inlet – w/ spring loaded cover providing a IP67 watertight rating when tightened.</p> 	<p>M4100B12R</p> <p>Δ</p>

100 Amp 3ØY 120V/208V 4 Pole 5-Wire

Description	Item # / OEM #
Plugs & Connectors	
 <p>Plug – w/ gasketed locking ring Mate with M5100R9 Receptacle</p>	<p>M5100P9</p> <p>Δ</p>
 <p>Connector Body Mate with plug on extension cords or adapters. Note: It does not mate with shore power inlet.</p>	<p>M5100C9</p> <p>Δ</p>
 <p>Connector Body – w/ gasketed locking ring Mate with M5100B9R Inlet</p>	<p>M5100C9R</p> <p>Δ</p>

Inlets & Receptacles	
 <p>Dockside Receptacle – w/ spring loaded cover providing a IP67 watertight rating when tightened.</p> 	<p>M5100R9</p> <p>Δ</p>
 <p>Shore Power Inlet – w/ spring loaded cover providing a IP67 watertight rating when tightened.</p> 	<p>M5100B9R</p> <p>Δ</p>

Δ OEM Bulk Pack not available

DC CONNECTIONS

The Importance of a Quality DC Electrical System

There's an old axiom that states, "The strongest chain is only as reliable as its weakest link," and the same analogy can be applied to your boat's DC electrical system. Put it in a harsh salt water or fresh water environment, where a vessel's wiring and components are subjected to more concentrated abuse in one season than your family car would experience in five years, and it's easy to realize that small electrical problems can get out of hand very quickly.

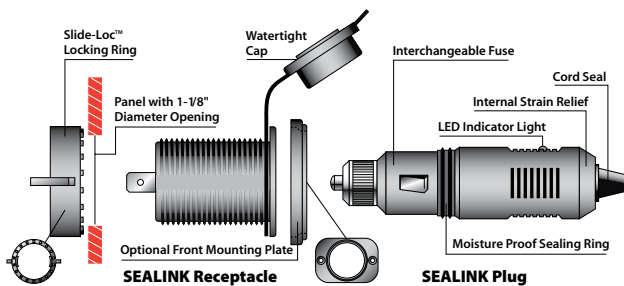
Safety onboard starts with a reliable DC electrical system that is installed and designed with the proper high quality wiring, components and connections to fulfill all of your intended DC tasks. If you're tempted to take shortcuts when wiring your boat, don't, as these types of cost-cutting measures can come back to bite you at the worst possible moments, potentially compromising the safety of your boat and crew.

So, whether you ply fresh water lakes, back bays, coastal areas, or make long distance blue water runs to the edge of the continental shelf, Marinc® offers a wide selection of high quality, low voltage DC electrical products designed specifically for the harsh marine environments.

Now you can spend more time enjoying your boating experience and less time dealing with unwanted electrical hassles.

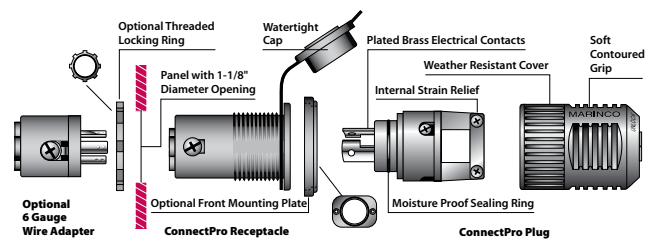


SeaLink® 12 Volt



The SeaLink® 12 Volt family of products are manufactured from corrosion resistant marine grade materials. Exclusive to SeaLink® products is a unique interconnecting system that securely locks the plug into the receptacle resulting in a positive and moisture proof connection. The plug and receptacle feature optimized metal connection points for maximum conductivity.

ConnectPro™ Charging & Trolling



The ConnectPro® trolling motor plug and receptacle is a revolutionary concept in trolling motor DC connections. The ConnectPro® system has superior electric current carrying capacity that eliminates problems that rob motors of power and reduce battery life. The ConnectPro® system features locking plug and receptacle and spring clamping connection which provides a secure electrical contact.



SeaLink® Deluxe 12 Volt Receptacle

- Available in black or white
- Watertight sealing cap
- Easy to install, with supplied mounting plate for front panel installation, or locking ring for rear access installation (mounting plate not included with 12VRC.OEM)
- Compatible with standard 12V plugs

Item # 12VRC black
 Item # 12VRCW white
 OEM # 12VRC.OEM black
 OEM # 12VRCW.OEM white



SeaLink® Deluxe 12 Volt Sealed Receptacle

- Sealed seams at electrical connections
- 4mm hole directs water away from electrical connections

OEM # 12VRCY



SeaLink® Deluxe 12 Volt Extension Cord

- Heavy duty 18 gauge wire, extends to over 6 feet
- Watertight cap
- Plug features an LED indicator light, moisture proof sealing ring, strain relief and built-in 10A fuse
- SeaLink® locking system
- Works with any standard 12V plug and receptacle

Item # 12VXT



SeaLink® Deluxe 12 Volt Dual Outlet Cord

- Heavy duty 18 gauge wire, extends to over 1 foot
- Watertight caps
- Plug features an LED indicator light, moisture proof sealing ring, strain relief and built-in 10A fuse
- SeaLink® locking system
- Works with any standard 12V plug and receptacle

Item # 12VAD



SeaLink® Receptacle with Alligator Clips

- 6 feet heavy duty straight cable wire
- Watertight cap
- Corrosion resistant alligator clips
- Accepts SeaLink® plug or standard 12V plug

Item # 12VXC



SeaLink® Receptacle Mounting Bracket

- Bracket for under dash mounting of the SeaLink® or ConnectPro® receptacles
- Receptacle installs with rear mounting threaded nut
- Marine grade anodized aluminum
- Dimensions: 2" W x 2-1/2" H

Item # 12BKT



SeaLink® Mounting Plate for 12VRC.OEM

- Easy to install or Retrofit

OEM # 12MP.OEM



SeaLink® Deluxe 12 Volt Plug

- Moisture proof sealing ring
- LED power indicator light
- Interchangeable 10A fuse
- Internal strain relief and cord seal
- Compatible with standard 12V receptacles

Item # 12VPG
 OEM # 12VPG.OEM



SeaLink® Deluxe 12 Volt Receptacle & Plug

- 12VRC and 12VPG packaged together

Item # 12VPK



DC CONNECTIONS - CONNECTPRO®

3-Wire ConnectPro® Charging / Trolling System



PATENTED

ConnectPro® Receptacle

- Universal design for 2 or 3-wire configuration 12, 24, 12/24, 24/36 or 36 volt systems
- Watertight sealing cap
- Corrosion resistant, plated brass electrical components
- Drain holes in receptacle keep water away from electrical components
- Perma-Lock™ screw terminals will not loosen under extreme hull vibration
- Standard 1-1/8" diameter mounting hole
- Easy to install, with supplied mounting plate for front panel installation, or locking ring for rear access installation
- Accepts 10 and 8 gauge wire
- Easily replaces other trolling motor plugs and receptacles

Item # 12VPG

OEM # 12VPG.OEM



ConnectPro® Plug

- O-ring seal for waterproof connections
- Weather resistant plug cover
- Corrosion resistant, plated brass electrical components
- Accepts 16 to 8 gauge wire
- Ergonomic contoured grip for easy hook-up and ground blade alignment

Item # 12VBP

OEM # 12VBP.OEM



6 Gauge Wire Receptacle Adapter

- Allows 6 gauge wire connection to ConnectPro receptacle
- Corrosion resistant, plated brass electrical components

Item # 12VBRAD

OEM # 12VBRAD.OEM



ConnectPro® Receptacle & Plug

- 12VBR and 12VBP packaged together

Item # 12VCP



ConnectPro® Receptacle, Plug & 6 Gauge Adapter

- 12VBR and 12VCP and 12 VBRAD packaged together

Item # 12VCP6

2-Wire ConnectPro™ Charging / Trolling System



2-Wire ConnectPro® Receptacle

- Works with 12, 24, or 36 Volt 2-wire systems
- For front mount panel installations
- Weather resistant sealing cap
- Drain holes in receptacle keep water away from electrical components
- Perma-Lock™ screw terminals will not loosen under extreme hull vibration
- Fits standard 1-1/8" diameter mounting hole
- Accepts up to 10 gauge wire

Item # 12VBR

OEM # 12VBR.OEM



2-Wire ConnectPro® Plug

- O-ring seal for waterproof connections
- Weather resistant plug cover
- Corrosion resistant, plated brass electrical components
- Accepts 16 to 8 gauge wire
- Ergonomic contoured grip for easy hook-up and ground blade alignment
- Accepts up to 10 gauge wire

Item # 12VBPS2

OEM # 12VBPS2.OEM



2-Wire ConnectPro® Receptacle & Plug

- 12VBR2 and 12VBPS2 packaged together

Item # 12VCP2

Also ideal for downrigger applications

5 YEAR WARRANTY

3-wire 30 Amp/125V Locking Charging/Trolling System



Male Plug

Short housing, black nylon with internal strain relief system and recessed fasteners

Item # 305BP
OEM # 305BP.OEM



Female Connector

Short housing, black nylon with internal strain relief system and recessed fasteners

Item # 305BC



Receptacle

Corrosion resistant reinforced nylon. Accepts 8 gauge stranded wire or up to 6 gauge with ring terminals

Item # 305CRRB
OEM # 305CRRB.OEM



4-Wire 12/24V Locking Charging / Trolling System

The 4-wire Trolling/Charging System eliminates the need for a charge/run switch. Install the receptacle on the boat, mount the black trolling motor plug on the trolling motor, and the red charger plug on the leads of the battery charger. Simply plug in the black plug to troll, or plug in the red plug to charge.



Charger Plug (Male)

- Connects to a 12V battery charger to allow simultaneous charging of two 12V batteries when plugged into the receptacle. Red

Item # 2018BP-12
OEM # 2018BP-12.OEM



Trolling Motor Plug (Male)

- Connects to trolling motor
- Jumpered internally to supply 12V & 24V power to the trolling motor when plugged into the receptacle. Black

Item # 2018BP-24
OEM # 2018BP-24.OEM



Receptacle & Bracket

- Spring loaded flip lid cover and 2018BR receptacle, pre assembled

Item # 2018BR-MB



Bracket

- Spring loaded flip lid cover, without receptacle

Item # 2018MB
OEM # 2018MB.OEM



Trolling-Charging System Package

- Includes the 2018BP-12, 2018BP-24, and 2018BR-MB

Item # 2018PKG



Receptacle

- Glass-reinforced corrosion resistant nylon. Accepts 8 gauge stranded wire or up to 6 gauge with ring terminals.

Item # 2018BR
OEM # 2018BR.OEM

DC CONNECTIONS

On-Board Charger Inlets

The Maringo® On-Board Charger Inlet makes battery charging through an on-board battery charger safer and more convenient. The inlet mounts on the boat's exterior and is hard-wired directly to the charger. Just open the flip lid cover and plug an extension cord into the inlet to bring charging power to the boat's batteries. All of the hatches remain closed and locked throughout the charging cycle, adding convenience and security for the boater.



- 15A or 20A 125V straight blade inlet
- Low profile cap won't catch fishing line
- Mounts easily to fiberglass and aluminum hulls
- Perma-Lock™ terminals and color coded wire entrance holes make wiring a snap
- UV resistant housing/cap

Amp	Color	Item #	OEM #
15 Amp	Black	150BBI	150BBI.OEM
15 Amp	White	150BBIW	150BBIW.OEM
20 Amp	White	200BBIW	200BBIW.OEM



15A 125V
Straight Blade

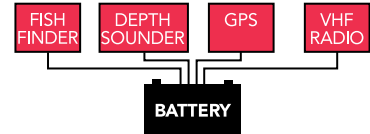
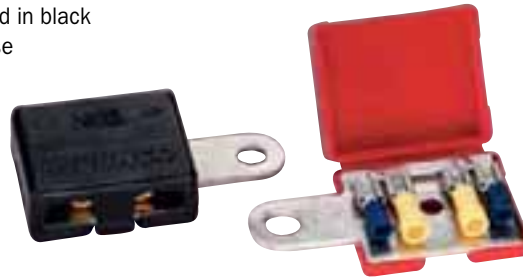


20A 125V
Straight Blade

Battery Direct Connect™ Multi Connection Battery Terminals

- Terminate up to four electronic instruments on each set of terminals
- Comes complete with quick-connect terminals
- Positive molded in red, negative molded in black
- All one piece, no screws or parts to lose
- Cover snaps tight when closed

Item # **12VTR**
OEM # 12VTR.OEM



ConnectCharge™ Inlets



Universal Mount

- Mount to dash from rear with threaded locking ring or from the front with three screws through the face plate

Item # **150CCI**



Rear Mount

- Mounts to dash from rear with threaded locking ring
- Eliminates rewiring, plug snaps into Inlet locking tab
- Watertight lid protects AC plug

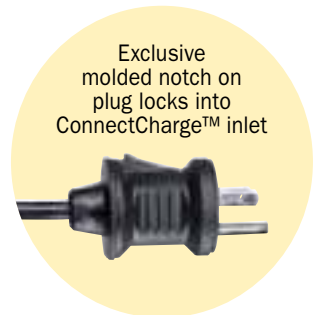
OEM # 150CCTM.OEM



Front Mount

- Mounts to panel from front with three screws through the face plate

OEM # 150CC.OEM



Exclusive molded notch on plug locks into ConnectCharge™ inlet

Plug design is a standard feature on all Guest On-Board Trolling Motor and Bluewater chargers with an AC plug.



FS Box

- Black non-metallic, with two 3/4" K.O. holes
- Accepts 15A, 20A and 30A receptacles, and 7420CR weatherproof covers

Item # 6080

OEM # 6080.OEM



FD Box with 3/4" or 1" K.O. Holes

- Yellow fiberglass, with two K.O. holes
- Accepts 15A, 20A, 30A & 50A receptacles, and 7420CR & 7788CR covers

Item # 6083CR 3/4" holes

Item # 6084CR 1" holes



Weatherproof Cover

- Yellow LEXAN® polycarbonate with lift lid
- Fits 15A, 20A, & 30A single receptacles

Item # 7420CR

OEM # 7420CR.OEM



Weatherproof Cover

- Yellow LEXAN® polycarbonate with lift lid
- Fits 50A receptacles 6369CR & 6370CR

Item # 7788CR

OEM # 7788CR.OEM



Plastic Switch/Outlet Box

- 3-9/32" x 2-3/16" x 2.5" D.
- Can be secured against the back of wall or wall facing
- Accepts 15A, 20A & 30A receptacles, telephone outlets and TV coax connectors

Item # 6079

OEM # 6079.OEM



Stainless Steel Weatherproof Cover with Lift Lid

- Fits 4700CR, 5262CRR, & 5739CR duplex receptacles

Item # 7879CR



Stainless Steel Weatherproof Cover with Lift Lid

- Fits GFCI duplex receptacles

Item # 7879CR-FI

OEM # 7879CR-FI.OEM



Replacement Cap & Bezel

- For standard 30A non-metallic inlets
- Stainless steel trim on cap

Item # 301ELCB

Replacement Cap & Bezel

- For standard 50 Amp 125/250V inlet
- Stainless steel trim on cap

Item # 6353ELCB



Replacement Interior

- Fits 50A 125/250V Easy Lock 4-wire stainless steel or standard inlets manufactured after 8-1-93

Item # 6373ELMB



Replacement Interior

- Fits 303SSEL-B, 303SSI-B & 301EL-B boat inlets

Item # 305CRMB



Replacement Interior

- Fits 30A standard non-metallic inlets manufactured prior to 1/1/91

Item # 301CRMB

TECHNICAL DATA

“Can I use ‘regular wire’ for my boat?” The answer to this common question is a qualified “yes,” if the wire is SAE (Society of Automotive Engineering) J378, J1127 or J1128. These wires are designed for “surface vehicles,” not for the special requirements of the marine industry, but meet the minimum standards for boats in limited circumstances. Even if tinned copper, they should not be run in bilge spaces or other areas subject to moisture from spray or dripping. They should not be run in engines spaces, unless marked “oil resistant” and “75°C”. They should not be used in applications where subjected to vibration or frequent flexing and must never be used for 110 volt applications. For safety, use only wire which is marked with size and type.

Most importantly, SAE wire is up to 12% smaller than AWG Boat Cable which means that, in many applications, larger gauge wire must be used to stay within the voltage drop limits

recommended by experts (see Tables C & D). The wire charts found in “Chapman’s Piloting” and other publications are all for “AWG” wire like Ancor™, not “SAE” type wire.

Using the wrong type of wire can cost you more in the long run. Insist on Marine Grade Boat Cable by Ancor. It is UL approved for the corrosive marine environment and charter boat service. Marine Grade Boat Cable is specially designed to exceed all test standards for cold bend, moisture and oil resistance, heat shock and flammability. This ensures the safest, easiest to install, longest lasting and ultimately the least expensive electrical system you can buy. Only Ancor offers a complete line of Marine Grade Boat Cable for every need.

Table A: Marine Color Code

Color	Item	Use
Red	DC Positive Conductor	Positive Mains
Black or Yellow	DC Negative Conductor	Return, Negative Mains
Green or Green w/ Yellow Stripe	DC Grounding Conductor	Bonding System Bonding Wires (if insulated)
Light Blue	Oil Pressure	Oil Pressure Sender to Gauge
Dark Blue	Cabin & Instrument Lights	Fuse or Switch to Lights
Brown	Generator Armature	Generator Armature to Regulator
	Alternator Charge Light	Generator Terminal/Alternator Auxiliary Terminal to Light to Regulator
	Pumps	Fuse or Switch to Pumps
	Navigation Lights	Fuse or Switch to Lights
Grey	Tachometer	Tachometer Sender to Gauge
	Accessory Feed	Ammeter to Alternator or Generator Output and Accessory Fuses or Switches
Orange	Common Feed	Distribution Panel to Accessory Switch
	Fuel Gauge	Fuel Gauge Sender to Gauge
Pink	Fuel Gauge	Fuel Gauge Sender to Gauge
Purple	Ignition	Ignition Switch to Coil & Electrical Instruments
	Instrument Feed	Distribution Panel to Electric Instruments
Brown w/ Yellow Stripe	Bilge Blowers	Fuse or Switch to Blower
Yellow w/ Red Stripe	Starting Circuit	Starting Switch to Solenoid
Tan	Water Temperature	Water Temperature Sender to Gauge
Green/Stripe (G/x) (except G/Y)	Tilt Down and/or Trim In	Tilt and/or Trim Circuits
Blue/Stripe (BI/x)	Tilt Up and/or Trim Out	Tilt and/or Trim Circuits

Table B: Conductors Sized (AWG) for 3% Voltage Drop

Use 3% voltage drop for any “critical application” affecting the safety of the vessel or its passengers: bilge pumps, navigation lights, electronics, etc....

IMPORTANT!

Length (feet): Determined by measuring the length of the conductor from the positive (+) power source connection to the electrical device and back to the negative (-) power source connection. Note that the power source connection may be either the battery, panelboard or switchboard.

Current (amps): Determined by adding the total amps on a circuit.

Conductor sizes not covered in Table B or Table C may be calculated by using the following formula:

$$CM = \frac{K \times I \times L}{E}$$

After calculating the Circular Mil Area (CM), use Table E to determine the proper conductor size (National Fire Protection Agency and Coast Guard require that the next larger conductor be used when the calculated CM area falls between the two conductor sizes).

- CM** = Circular Mil Area of Conductors
- K** = 10.75 (Constant representing the mil-foot resistance of copper)
- I** = Current - amps / L = Length - feet
- E** = Voltage drop at load (in voltage drop in a decimal expression)

For Example...

Q: A bilge pump draws 10 amps. The positive run is 11 feet from the power panel, including the float switch. The negative run is only 10 feet. What size is the wire?

A: Use the formula to reach the correct answer:

Table D shows that 12 AWG wire has a CM area of 6,500 and is the correct choice. However, SAE wire has a CM area of only 5,833. Under NFPA and USCG regulations, 10 SAE wire must be used.

		3% VOLTAGE DROP AT 12 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	14	12	10	10	8	6	6	6	6	6	4	4
15'	16	12	10	10	8	8	6	6	4	4	4	2	2
20'	14	10	10	8	6	6	6	4	4	2	2	2	2
25'	12	10	8	6	4	4	4	2	2	2	2	1	1
30'	12	10	8	6	6	6	4	4	2	2	2	1	1
40'	10	8	6	6	4	4	2	2	1	1/0	1/0	2/0	2/0
50'	10	6	6	4	4	2	2	1	1/0	2/0	3/0	4/0	4/0
60'	10	6	6	4	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0
70'	8	6	4	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0	
80'	8	6	4	2	2	1	1/0	2/0	3/0	4/0	4/0		
90'	8	4	2	2	1	1/0	2/0	3/0	4/0	4/0			
100'	6	4	2	2	1	1/0	2/0	3/0	4/0				
110'	6	4	2	2	1	1/0	2/0	3/0	4/0				
120'	6	4	2	1	1/0	2/0	3/0	4/0					
130'	6	2	2	1	1/0	2/0	3/0	4/0					
140'	6	2	2	1/0	2/0	3/0	4/0						
150'	6	2	1	1/0	2/0	3/0	4/0						
160'	6	2	1	1/0	2/0	3/0	4/0						
170'	6	2	1	2/0	3/0	3/0	4/0						

		3% VOLTAGE DROP AT 24 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	18	16	14	12	12	10	10	10	8	8	8	6
15'	18	16	14	12	12	10	10	8	8	6	6	6	6
20'	18	14	12	10	10	10	8	6	6	6	6	4	4
25'	16	12	12	10	10	8	6	6	6	4	4	4	4
30'	16	12	10	10	8	8	6	6	4	4	4	2	2
40'	14	10	10	8	6	6	6	4	4	2	2	2	2
50'	12	10	8	6	6	6	4	4	2	2	2	1	1
60'	12	10	8	6	6	4	4	2	2	1	1	1/0	1/0
70'	12	8	6	6	4	4	2	2	1	1	1/0	1/0	2/0
80'	10	8	6	6	4	4	2	2	1	1/0	1/0	2/0	2/0
90'	10	8	6	4	4	2	2	1	1/0	1/0	2/0	2/0	3/0
100'	10	6	6	4	4	2	2	1	1/0	2/0	2/0	3/0	3/0
110'	10	6	6	4	2	2	1	1/0	1/0	2/0	3/0	3/0	4/0
120'	10	6	4	4	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0
130'	8	6	4	2	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0
140'	8	6	4	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0	
150'	8	6	4	2	2	1	1/0	2/0	3/0	3/0	4/0	4/0	
160'	8	6	4	2	2	1	1/0	2/0	3/0	4/0	4/0	4/0	
170'	8	6	2	2	1	1	2/0	3/0	3/0	4/0	4/0		

		3% VOLTAGE DROP AT 32 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	18	16	16	14	14	12	12	10	10	10	8	8
15'	18	16	14	14	12	12	10	10	8	8	8	6	6
20'	18	16	12	12	12	10	10	8	8	6	6	6	6
25'	18	14	12	12	10	10	8	8	6	6	6	6	4
30'	16	14	10	10	10	8	8	6	6	6	4	4	4
40'	16	12	10	10	8	8	6	6	4	4	4	2	2
50'	14	12	8	8	8	6	6	4	4	2	2	2	2
60'	14	10	8	8	6	6	4	4	2	2	2	2	1
70'	12	10	6	6	6	6	4	2	2	2	1	1	0
80'	12	10	6	6	6	4	4	2	2	1	1	0	0
90'	12	8	6	6	6	4	2	2	2	1	1/0	1/0	2/0
100'	12	8	6	6	4	4	2	2	1	1/0	1/0	2/0	2/0
110'	10	8	6	6	4	4	2	2	1	1/0	1/0	2/0	2/0
120'	10	8	6	4	4	2	2	1	1/0	1/0	2/0	2/0	3/0
130'	10	8	6	4	4	2	2	1	1/0	2/0	2/0	3/0	3/0
140'	10	6	6	4	2	2	1	1/0	1/0	2/0	3/0	3/0	3/0
150'	10	6	6	4	2	1	1	1/0	2/0	2/0	3/0	3/0	4/0
160'	10	6	4	4	2	1	1	1/0	2/0	3/0	3/0	4/0	4/0
170'	8	6	4	2	2	1	1	1/0	2/0	3/0	3/0	4/0	4/0

TECHNICAL DATA

Table C: Conductors Sized (AWG) for 10% Voltage Drop

Use 10% voltage drop for any "non-critical" applications: windlass, cabin lights, etc....

		10% VOLTAGE DROP AT 12 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	18	18	16	16	14	14	12	12	10	10	10	10
15'	18	18	16	14	14	12	12	10	10	8	8	8	8
20'	18	16	14	14	12	12	10	10	8	8	8	6	6
25'	18	16	14	12	12	10	10	8	8	6	6	6	6
30'	18	14	12	12	10	10	8	8	6	6	6	6	4
40'	16	14	12	10	10	8	8	6	6	6	4	4	4
50'	16	12	10	10	8	8	6	6	4	4	4	2	2
60'	14	12	10	8	8	6	6	4	4	2	2	2	2
70'	14	10	8	8	6	6	6	4	2	2	2	2	1
80'	14	10	8	8	6	6	4	4	2	2	2	1	1
90'	12	10	8	6	6	6	4	2	2	2	1	1	1/0
100'	12	10	8	6	6	4	4	2	2	1	1	1/0	1/0
110'	12	8	8	6	6	4	2	2	2	1	1/0	1/0	1/0
120'	12	8	6	6	4	4	2	2	1	1	1/0	1/0	2/0
130'	12	8	6	6	4	4	2	2	1	1/0	1/0	2/0	2/0
140'	10	8	6	6	4	2	2	1	1	1/0	2/0	2/0	2/0
150'	10	8	6	4	4	2	2	1	1/0	1/0	2/0	2/0	3/0
160'	10	8	6	4	4	2	2	1	1/0	2/0	2/0	3/0	3/0
170'	10	6	6	4	2	2	2	1	1/0	2/0	2/0	3/0	3/0

		10% VOLTAGE DROP AT 24 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	18	18	18	18	18	16	16	14	14	14	12	12
15'	18	18	18	18	16	16	14	14	12	12	12	10	10
20'	18	18	18	16	16	14	14	12	12	10	10	10	10
25'	18	18	16	16	14	14	12	12	10	10	10	8	8
30'	18	18	16	14	14	12	12	10	10	8	8	8	8
40'	18	16	14	14	12	12	10	10	8	8	8	6	6
50'	18	16	14	12	12	10	10	8	8	6	6	6	6
60'	18	14	12	12	10	10	8	8	6	6	6	6	4
70'	16	14	12	10	10	8	8	6	6	6	6	4	4
80'	16	14	12	10	10	8	8	6	6	6	4	4	4
90'	16	12	10	10	8	8	6	6	6	4	4	4	2
100'	16	12	10	10	8	8	6	6	4	4	4	2	2
110'	14	12	10	8	8	8	6	6	4	4	2	2	2
120'	14	12	10	8	8	6	6	4	4	2	2	2	2
130'	14	12	10	8	8	6	6	4	4	2	2	2	2
140'	14	10	8	8	6	6	6	4	2	2	2	2	1
150'	14	10	8	8	6	6	4	4	2	2	2	2	1
160'	14	10	8	8	6	6	4	4	2	2	2	1	1
170'	12	10	8	6	6	6	4	2	2	2	2	1	1

		10% VOLTAGE DROP AT 32 VOLTS											
		Current (amps)											
Length	5	10	15	20	25	30	40	50	60	70	80	90	100
10'	18	18	18	18	18	18	18	16	16	14	14	14	14
15'	18	18	18	18	18	18	16	14	14	14	12	12	12
20'	18	18	18	18	16	16	14	14	12	12	12	10	10
25'	18	18	18	16	16	14	14	12	12	10	10	10	10
30'	18	18	18	16	14	14	12	14	10	10	10	10	8
40'	18	18	16	14	14	12	12	10	10	8	8	8	8
50'	18	16	14	14	12	12	10	10	8	8	8	6	6
60'	18	16	14	12	12	10	10	8	8	8	6	6	6
70'	18	14	14	12	10	10	8	8	8	6	6	6	6
80'	18	14	12	12	10	10	8	8	6	6	6	6	4
90'	18	14	12	10	10	10	8	6	6	6	6	4	4
100'	16	14	12	10	10	8	8	6	6	6	4	4	4
110'	16	14	12	10	10	8	8	6	6	6	4	4	4
120'	16	12	10	10	8	8	6	6	6	4	4	4	2
130'	16	12	10	10	8	8	6	6	6	4	4	2	2
140'	14	12	10	8	8	8	6	6	4	4	2	2	2
150'	14	12	10	8	8	6	6	6	4	4	2	2	2
160'	14	12	10	8	8	6	6	4	4	2	2	2	2
170'	14	12	10	8	8	6	6	4	4	2	2	2	2

ABYC Recommends...

"Conductors used for panelboard or switchboard main feeders, bilge blowers, electronic equipment, navigation lights, and other circuits where voltage drop must be kept to a minimum, shall be sized for a voltage drop not to exceed three percent. Conductors used for lighting, other than navigation lights, and other circuits where voltage drop is not critical, shall be sized for a voltage drop not to exceed 10 percent." 11.16.1.2.7.

Table D: Conductor Sizes

AWG	Sq. mm	AWG	SAE	Ampacity Engine Space	
		CM area	CM area	Outside	Inside
18	0.8	1,600	1,537	20	17
16	1	2,600	2,336	25	21
14	2	4,100	3,702	35	30
12	3	6,500	5,833	45	38
10	5	10,500	9,343	60	51
8	8	16,800	14,810	80	68
6	13	26,600	24,538	120	102
4	21	42,000	37,360	160	136
2	34	66,500	62,450	210	178
1	42	83,690	77,790	245	208
1/0	53	105,600	98,980	285	242
2/0	68	133,100	125,100	330	280
3/0	85	167,800	158,600	385	327
4/0	107	211,600	205,500	445	378

Table E: Temperature Rating of Conductor Insulation

The Law

The Code of Federal Regulations (CFR) 183.425 Conductors

- (b) Except for intermittent surges each conductor must not carry a current greater than that specified in Table E for the conductor's gauge and temperature rating.
- (c) For conductors in engine spaces, amperages must be corrected by the appropriate correction factor in note 1 of Table E.

Due to engine heat, the ambient temperature in engine spaces is usually higher than in other spaces of the boat. Wiring in and passing through engine spaces must be able to operate at these higher ambient temperatures. The ampacity values in Table E are based on an ambient temperature of 30° C (86° F) which is considered reasonable for use on boats except in engine spaces. The correction factors in Note 1 in Table E convert the ampacities to Table E to acceptable values in an ambient temperature of 50° C (122° F). This higher temperature has been selected as satisfactory for engine spaces. Note 1 is supplied to eliminate the need for calculating the corrections to Table E. The values are already corrected.

Conductor Size (AWG)	Ampacity Outside of Engine Space	Ampacity Inside of Engine Space (Note 1)
18	20	17
16	25	21
14	35	30
12	45	38
10	60	51
8	80	68
6	120	102
4	160	136
3	180	153
2	210	178
1	245	208
1/0	285	242
2/0	330	280
3/0	385	327
4/0	445	378

*De-rating for engine space is 0.85 for 105° C (221° F) rated wire.

Table F: Allowable Amperage of Conductors of 50 Volts or More

The current values shown in Table F and also on Table D do not consider voltage drop for conductors under 50 volts. The values shown on the ampacity table are the maximum safe amperages which the conductor can carry on a continuous basis. They do not apply to intermittent starting loads such as motor start currents. Since all Ancor™ Boat Cable is 105° C insulated, only that temperature rating is shown.

Due to the higher ambient temperatures in engine spaces and the heat retention of large wire bundles, a "correction factor" must be used to derate the wire by increasing conductor size. Table F takes into consideration these factors and should be used to select conductor sizes for circuits over 50 volts. Note that for electrical systems under 50 volts, voltage drop is the controlling factor and the tables on pages 31 and 32 should be used.

Conductor Size (AWG)	2 Conductors 105° C (221° F)		3 Conductors 105° C (221° F)		4 to 6 Conductors 105° C (221° F)		7 to 24 Conductors 105° C (221° F)	
	Engine Space Outside	Engine Space Inside	Engine Space Outside	Engine Space Inside	Engine Space Outside	Engine Space Inside	Engine Space Outside	Engine Space Inside
18	20	17.0	14.0	11.9	12.0	10.2	10.0	8.5
16	25	21.3	17.5	14.9	15.0	12.8	12.5	10.6
14	35	29.8	24.5	20.8	21.0	17.9	17.5	14.9
12	45	38.3	31.5	26.8	27.0	23.0	22.5	19.1
10	60	51.0	42.0	35.7	36.0	30.6	30.0	25.5
8	80	68.0	56.0	47.6	48.0	40.8	40.0	34.0
6	120	102.0	84.0	71.4	72.0	61.2	60.0	51.0
4	160	136.0	112.0	95.2	96.0	81.6	80.0	68.0
3	180	153.0	126.0	107.1	108.0	91.8	90.0	76.5
2	210	178.5	147.0	125.0	126.0	107.1	105.0	89.3
1	245	208.3	171.5	145.8	147.0	125.0	122.5	104.1
1/0	285	242.3	199.5	169.6	171.0	145.4	142.5	121.1
2/0	330	280.5	231.0	196.4	198.0	168.3	165.0	140.3
3/0	385	327.3	269.5	229.1	231.0	196.4	192.5	163.6
4/0	445	378.3	311.5	264.8	267.0	227.0	222.5	189.1

Table F is supplied to eliminate the need for calculating the corrections for multi-conductor cable bundles to Table E. The values are already corrected.

Number of current carrying conductors:	Correction Factor
3	0.70
4 to 6	0.60
7 to 24	0.50
25 and above	0.40

- Note: These tables only apply for 105° C (221° F) wire and other premium wire and should not be used for lesser grades of wire and cable.
- Reprinted at the courtesy of the United States Coast Guard Electrical System Compliance Guideline.

* There is NO LIMIT on conductors in a bundle under 50 Volts.



- Ancor Marine Grade™ wire is manufactured from tinned copper stranding for maximum protection against corrosion and electrolysis. Ultra flexible (Type 3) stranding resists fatigue due to vibration and flexing.
- Ancor's proprietary premium vinyl insulation stays flexible even in extreme cold (-40°C) and resists salt water, battery acid, oil, gasoline and ultra-violet radiation. Exclusive insulation is rated at 600 volts, 105° C dry and 75° C wet, and is resistant to heat and abrasion.
- Exceeds all UL 1426, US Coast Guard Charter boat (CFR Title 46) and ABYC standards.

18AWG/0.8mm²

Color	Spool Length(ft)	Item #
Black	35	180003
	100	100010
	500	100050
Dk. Blue	35	180103
	100	100110
	500	100150
Brown	100	100210
Green	35	180303
	100	100310
Grey	100	100410
	500	100450
Orange	35	180503
	100	100510
Pink	35	180603
	100	100610
	500	100650
Purple	35	180703
	100	100710
	500	100750
Red	35	180803
	100	100810
	500	100850
White	35	180903
	100	100910
	500	100950
Yellow	35	181003
	100	101010
	500	101050

16 AWG /1mm²

Color	Spool Length(ft)	Item #
Lt. Blue	100	101910
Black	100	102010
	250	102025
	500	102050
Dk. Blue	1000	102099
	25	182103
	500	102150
Brown	1000	102199
	25	182203
Green	100	102210
	500	102250
Grey	25	182303
	100	102310
Orange	500	102350
	25	182403
	100	102410
Purple	250	102425
	25	182503
Red	100	102510
	500	102550
	25	182603
Pink	100	102610
	25	182703
	100	102710
Yellow	25	182803
	100	102810
	250	102825
	500	102850
White	1000	102899
	25	182903
	100	102910
	500	102950
Grey	1000	102999
	25	183003
	100	103010
	500	103050
Black	1000	103099

14 AWG /2mm²

Color	Spool Length(ft)	Item #
Lt. Blue	100	103910
Black	18	184003
	100	104010
	250	104025
	500	104050
	1000	104099
Dk. Blue	18	184103
	100	104110
	500	104150
	1000	104199
	18	184203
Brown	100	104210
	500	104250
	1000	104299
	18	184303
	100	104310
Green	500	104350
	1000	104399
	18	184403
	100	104410
	500	104450
Orange	18	184503
	100	104510
	500	104550
	18	184603
	100	104610
Purple	100	104650
	18	184703
	100	104710
Red	18	184803
	100	104810
	250	104825
	500	104850
	1000	104899
White	18	184903
	100	104910
	500	104950
	18	185003
	100	105010
Yellow	500	105050
	1000	105099

12 AWG /3mm²

Color	Spool Length(ft)	Item #
Black	12	186003
	100	106010
	250	106025
	400	106040
Dk. Blue	1000	106099
	100	106110
	400	106140
Brown	100	106210
	400	106240
Green	100	106310
	250	106325
	400	106340
	1000	106399
Grey	100	106410
Orange	100	106510
Pink	100	106610
Purple	100	106710
Red	12	186803
	25	106802
	100	106810
White	250	106825
	400	106840
	1000	106899
	100	106910
Yellow	400	106940
	1000	106999
	100	107010
Black	250	107025
	1000	107099

WIRE & CABLE

10 AWG /5mm²

Color	Spool Length(ft)	Item #
Black	8	188003
	25	108002
	100	108010
	250	108025
	500	108050
	1000	108099
Dk. Blue	100	108110
	500	108150
Brown	100	108210
	500	108250
Green	100	108310
	250	108325
	1000	108399
Grey	250	108425
Orange	100	108510
Pink	8	188603

Color	Spool Length(ft)	Item #
Red	8	188803
	25	108802
	100	108810
	250	108825
	500	108850
	1000	108899
White	8	188903
	100	108910
	250	108925
	1000	108999
Yellow	25	109002
	100	109010
	250	109025
	500	109050
	1000	109099
Green w/Yellow	100	109310
	1000	109399

Battery Cable Stripper

- Adjustable blade cutting height, comes with extra blades.
- Easily adjusts to various cable thickness. Swivel blade for stripping up wire as well as around.
- Good for stripping duplex and triplex.
- Comes with extra swivel blade.

Item # 702065



8 - 4/0 AWG Battery Cable UL 1426 Tinned Boat Cable

Cable Size	Color	Spool Length(ft)	Item #		
8	Black	25	111002		
		100	111010		
		250	111025		
		500	111050		
		1000	111099		
8 mm ²	Green	25	111302		
		100	111310		
		250	111325		
		500	111350		
		1000	111399		
Red	Red	25	111502		
		100	111510		
		250	111525		
		500	111550		
		1000	111599		
White	White	100	111710		
		1000	111799		
		Yellow	Yellow	25	111902
				100	111910
				1000	111999
6	Black	25	112002		
		50	112005		
		100	112010		
		250	112025		
		500	112050		
13 mm ²	Green	750	112075		
		50	112305		
		100	112310		
		750	112375		
		Red	Red	25	112502
50	112505				
100	112510				
250	112525				

Cable Size	Color	Spool Length(ft)	Item #		
500	White	500	112550		
		750	112575		
		50	112705		
		100	112710		
		250	112725		
Yellow	Yellow	25	112902		
		100	112910		
		750	112975		
		4	Black	25	113002
				50	113005
100	113010				
250	113025				
500	113050				
21 mm ²	Red	25	113502		
		50	113505		
		100	113510		
		250	113525		
		500	113550		
Yellow	Yellow	100	113910		
		500	113950		
		2	Black	25	114002
				50	114005
				100	114010
250	114025				
400	114040				
34 mm ²	Red	25	114502		
		50	114505		
		100	114510		
		250	114525		
		400	114540		
Yellow	Yellow	50	114905		

Cable Size	Color	Spool Length(ft)	Item #
Yellow	Yellow	100	114910
		250	114925
		400	114940
1	Black	25	115002
		50	115005
		100	115010
		300	115030
		42 mm ²	Red
50	115505		
100	115510		
300	115530		
Yellow	Yellow	25	
		50	115905
		100	115910
		300	115930
		1/0	Black
50	116005		
100	116010		
250	116025		
53 mm ²	Red		
50		116505	
100		116510	
250		116525	
Yellow		Yellow	25
	50		116905
	100		116910
	250		116925
	2/0		Black
50		117005	
100		117010	
200		117020	

Cable Size	Color	Spool Length(ft)	Item #		
Red	Red	25	117502		
		50	117505		
		100	117510		
		200	117520		
		Yellow	Yellow	25	117902
50	117905				
100	117910				
200	117920				
3/0	Black	25		118002	
		50	118005		
		100	118010		
		150	118015		
		85 mm ²	Red	25	118502
50	118505				
100	118510				
150	118515				
Yellow	50	118905			
4/0	Black	25	119002		
		50	119005		
		100	119010		
		107 mm ²	Red	25	119502
		50		119505	
100	119510				
Yellow	25	119902			
50	119905				
		100	119910		

Marine Grade™ 18 – 4/0 AWG Wire and Cable Specifications						
Wire Size	Nominal O.D.	Wt. per 1000'	Stranding No. of 30 AWG	Cir. Mil Area	Square mm	Ohms per 1000'
18 AWG .08 mm2	7/64" 2.8 mm	12 lbs. 5.4 kg	16	1600	.0823	6.48
16 AWG 1 mm2	1/8" 3.2mm	16 lbs. 7.3 kg	26	2600	1.31	4
14 2 mm2	9/64" 3.6 mm	23 lbs. 10.4 kg	41	4100	2.08	2.53
12 3 mm2	5/32" 4 mm	31 lbs. 14 kg	65	6500	3.31	1.75
10 5 mm2	7/32" 5.6 mm	44 lbs. 20 kg	105	10,500	5.26	2.98
8 AWG 8 mm2	5/16" 7.9 mm	86 lbs. 39 kg	168	16,800	8.37	0.62
6 AWG 13 mm2	11/32" 8.7 mm	118 lbs. 53.5 kg	266	26,600	13.3	0.04
4 21 mm2	13/32" 10.3 mm	178 lbs. 81 kg	420	42,000	21.15	0.24
2 34 mm2	15/32" 11.9 mm	277 lbs. 126 kg	665	66,500	33.62	0.157
1 42 mm2	17/32" 13.5 mm	350 lbs. 159 kg	836	83,690	44.21	0.127
1/0 53 mm2	9/16" 14.3 mm	437 lbs. 198 kg	1064	105,600	53.49	0.099
2/0 68 mm2	5/8" 15.9 mm	549 lbs. 249 kg	1330	133,000	67.43	0.077
3/0 85 mm2	11/16" 17.5 mm	675 lbs. 306 kg	1665	167,800	85.01	0.062
4/0 107 mm2	13/16" 20.6 mm	837 lbs. 380 kg	2109	211,600	107.2	0.049

Safety Duplex Cable UL 1426 Tinned Boat Cable

Features red and yellow Marine Grade™ primary conductors in a white common jacket.

Color	Spool Length(ft)	Item #
18/2 2x0.8 mm ²	100	124910
	250	124925
	500	124950
	1000	124999
16/2 2x1 mm ²	25	124702
	100	124710
	250	124725
	500	124750
14/2 2x2 mm ²	100	124502
	250	124510
	500	124525
	1000	124550
12/2 2x3 mm ²	25	124910
	100	124925
	250	124950
	500	124999

Color	Spool Length(ft)	Item #
12/2 2x3 mm ²	25	124302
	100	124310
	250	124325
	500	124350
10/2 2x5 mm ²	25	124102
	100	124110
	250	124125
	400	124140
8/2 2x8 mm ²	50	123905
	100	123910
	50	123705
	100	123710



Marine Grade™ Duplex Flat Wire Specs		
Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
18/2	3/16 x 9/32	49
	4.8x7.1 mm	22.2 kg
16/2	3/16 x 5/16	51
	4.8x7.9 mm	23.1 kg
14/2	7/32 x 11/32	65
	5.6x8.7 mm	29.5 kg
12/2	7/32 x 3/8	82
	5.6x9.5 mm	37.3 kg
10/2	1/4 x 15/32	128
	6.4x11.9 mm	58.2 kg
8/2	11/32 x 5/8	230
	8.7x15.9 mm	104.5 kg
6/2	13/32 x 3/4	364
	10.3x19 mm	165.5 kg

WIRE & CABLE

Safety Duplex Cable

Cable Size	Spool Length(ft)	Item #
16/2 2x1 mm ²	100	126710
	250	126725
	500	126750
	1000	126799
14/2 2x2 mm ²	100	126510
	250	126525
	500	126550
	1000	126599

Cable Size	Spool Length(ft)	Item #
12/2 2x3 mm ²	100	126310
	250	126325
	500	126350



Flat Cable



Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/2	5/16	49
	7.9 mm	22.2 kg
14/2	11/32	63
	8.7 mm	28.6 kg
12/2	13/32	80
	10.3 mm	36.3 kg

Flat Duplex Cable

Cable Size	Spool Length(ft)	Item #
18/2 2x0.8 mm ²	100	121910
	250	121925
	500	121950
16/2 2x1 mm ²	100	121710
	250	121725
	500	121750
	1000	121799
14/2 2x2 mm ²	100	121510
	250	121525
	500	121550
	1000	121599

Cable Size	Spool Length(ft)	Item #
12/2 2x3 mm ²	100	121310
	250	121325
	500	121350
10/2 2x5 mm ²	100	121110
	250	121125
	400	121140
	800	121180
8/2 2x8 mm ²	50	120905
	100	120910
6/2 2x13 mm ²	250	120925
	100	120710

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
18/2	3/16 x 9/32	49
	4.8x7.1 mm	22.2 kg
16/2	3/16 x 5/16	51
	4.8x7.9 mm	23.1 kg
14/2	7/32 x 11/32	65
	5.6x8.7 mm	29.5 kg
12/2	7/32 x 3/8	82
	5.6x9.5 mm	37.3 kg
10/2	1/4 x 15/32	128
	6.4x11.9 mm	58.2 kg
8/2	11/32 x 5/8	230
	8.7x15.9 mm	104.5 kg
6/2	13/32 x 3/4	364
	10.3x19 mm	165.5 kg

Triplex Cable

Cable Size	Spool Length(ft)	Item #
16/3 3x1 mm ²	100	131710
	250	131725
	500	131750
	1000	131799
14/3 3x2 mm ²	100	131510
	250	131525
	500	131550
	900	131590
12/3 3x3 mm ²	25	131302
	100	131310
	250	131325

Cable Size	Spool Length(ft)	Item #
10/3 3x5 mm ²	25	131102
	100	131110
	300	131130
	500	131150
8/3 3x8 mm ²	25	130902
	50	130905
	100	130910
6/3 3x13 mm ²	50	130705
	100	130710

Flat Cable



Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/3	3/16 x 15/32	75
	4.8x11.9 mm	34 kg
14/3	7/32 x 1/2	96
	5.6x12.6 mm	43.6 kg
12/3	7/32 x 17/32	125
	5.6x13.5 mm	56.8 kg
10/3	1/4 x 21/32	186
	6.4x16.7 mm	84.5 kg
8/3	3/8 x 1	287
	9.5x25.4 mm	130.4 kg
6/3	7/16 x 1-3/16	470
	11.1x30.2 mm	213.6 kg

Cable Size	Spool Length(ft)	Item #
16/3 3x1 mm ²	100	133710
	250	133725
	500	133750
14/3 3x2 mm ²	100	133510
	250	133525
	500	133550
900	133590	

Cable Size	Spool Length(ft)	Item #
12/3 3x3 mm ²	100	133310
	250	133325

Round Cable



Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/3	11/32	75
	8.7mm	34 kg
14/3	13/32	96
	10.3 mm	43.6 kg
12/3	7/16	125
	11.1 mm	56.8 kg

European Color Code AC Cable

Premium Tinned Copper, Class K Stranding



Cable Size	Spool Length(ft)	Item #
10/3	100	131111
3x5 mm ²	500	131151

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
12/3	7/32 x 17/32	125
	5.6x13.5 mm	56.8 kg
10/3	1/4 x 21/32	186
	6.4x16.7 mm	84.5 kg

Flat Trailer Cable

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
12/3	Yellow, White,	100	154010
3x3 mm ²	Green, Brown	300	154030

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/4	3/16 x 9/16	105
	4 x 14.3mm	47.7 kg

Signal Cable

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
20/2	Black, Red	25	189303
2x0.5 mm ²		100	122010
		500	122050

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
20/2	5/32 x 1/4	18
	4 x 6.4 mm	8.1 kg

Round Air Conditioning

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
12/4	Black, Red,	100	154710
4x3 mm ²	Green, White		

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
12/4	15/32	186
	.476mm	84.5 kg

Round Signal

100% Mylar Foil Shield and Drain Wire

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
20/8	Black, Red,	100	158010
8x0.5 mm ²	Green, Blue,	1000	158099
	Brown, Orange,	250	158025
	Purple, Yellow		

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
20/8	5/16	63
	7.9 mm	28.6 kg

Twisted Pairs w/ Shield

Premium Tinned Copper

- For all metal boats and around sensitive electronics
- Ultra flexible stranding is tinned for corrosion resistance
- 93% Tinned copper shield for maximum EMI and RFI rejection
- 2-3" lay for interference cancellation



Cable Size	Spool Length(ft)	Item #
14/2	100	141410
2x2 mm ²	250	141425

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
14/2	.330	73.2
	8.4 mm	33.3 kg

WIRE & CABLE

Flat Ribbon Bonded Cable

Premium Tinned Bonded Copper



Cable Size	Conductor Colors	Spool Length(ft)	Item #
16/2 2x1 mm ²	Black, Red	100	153110
		500	153150

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/2	1/8 x 1/4	32
	3.2 x 6.4 mm	14.5 kg



Cable Size	Conductor Colors	Spool Length(ft)	Item #
16/4 4x1 mm ²	Brown, Green, White, Yellow	100	154510
		250	154525

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/4	1/8 x 1/2	62
	3.2 x 12.7 mm	28 kg

Round Instrument Cable

100% Mylar Foil Shield & Drain Wire

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
20/3 3x0.5 mm ²	Black, Red	100	153010
		250	153025
		500	153050

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
20/3	7/32	30
	5.6 mm	13.6 kg

Round Mast

UL 1426 Tinned Boat Cable



Cable Size	Conductor Colors	Spool Length(ft)	Item #
14/5 5x2 mm ²	Black, Blue, Green, Brown, Red	100	155010
		300	155030
		500	155050

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
14/5	1/2	160
	12.7mm	79.5 kg

Bilge Pump Cable

Premium Tinned Copper

- Bilge Pump Cable features grey insulation with black, brown and red conductors specifically for bilge pumps. Oil resistant.
- STOW - A - Water resistant jacket.



Cable Size	Spool Length(ft)	Item #
16/3 3x1 mm ²	100	156610
	250	156625

Cable Size	Spool Length(ft)	Item #
14/3 3x2 mm ²	100	156410
	250	156425
	500	156450

Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
18/2	.288	50
	7.35 mm	22.7 kg
18/3	.320	62
	8.15 mm	28.2 kg
16/3	.348	78
	8.85 mm	35.5 kg
14/3	.377	99
	9.6 mm	45.0 kg

Super Flex Audio Cable

Premium Tinned Copper

- Super Flexible, easy to run. Clear jacket to blend into the environment.
- Drawn copper, unidirectional lay for ultimate in sound quality.
- Tinned copper for corrosion resistance in the marine environment.

Cable Size	Spool Length(ft)	Item #
16/2	100	142610
2x1 mm ²	250	142625
	500	142650

Cable Size	Spool Length(ft)	Item #
14/2	100	142410
2x2 mm ²	250	142425
	250	142425
	1000	142499



Cable Size (AWG)	Nominal O.D. (in)	Wt. per 1000' (lbs)
16/4	1/8 x 1/2	62
	3.2 x 12.7 mm	28 kg

Shore Power Cord

Premium Tinned Copper

- High visibility yellow jacket is oil and sunlight resistant.
- 100% Tinned copper strands offer maximum corrosion protection.
- Ultra flexible insulation is abrasion resistant for “hard service” applications.
- 600 volt rated for extra heavy duty service.
- 16/3 is 300 volt cable.

Cable Size	Conductor Colors	Spool Length(ft)	Item #
16/3 Phone	Black, White, Green	300	153530
3x1 mm ²			
10/3 STOW	Black, White, Green	250	153725
3x1 mm ²			
6/3 STOW	Black, White, Green	250	153925
3x13 mm ²			



Cable Size (AWG)	Nominal O.D.		Wt. per 1000'	
	(in)	(mm)	(lbs)	(kg)
16/3 Phone	5/16	5.6 mm	75	34 kg
10/3 STOW	21/32	16.7 mm	284	129 kg
6/3 STOW	7/8	22.2 mm	540	254.4 kg
6/4 SEOW-A	29/32	23 mm	695	316 kg
2/4 STOW	1-3/8	35 mm	1475	670.4 kg

Coaxial Cable

Premium Tinned Copper

- Features signal loss ratios of up to 50% less than other coaxial cables.
- Tinned copper center conductor as well as tinned copper outer braid for corrosion resistance and easy soldering.
- 96% braid for best signal strength and least interference with UV inhibited white jacket for longest life.

Cable Size	Spool Length(ft)	Item #
RG 58CU	100	150510
	250	150525
RG 59U	250	151025
	500	151050

Cable Size	Spool Length(ft)	Item #
RG 213	100	151710
	250	151725
	500	151750



Ancor Recommends

- RG 58CU for interconnecting electronic equipment.
- RG 59U for TVs and some SAT NAVs.
- RG 8X for VHF runs less than 50 feet.
- RG 8U for VHF runs over 50 feet.

CABLE ASSEMBLIES

PREMIUM BATTERY CABLE ASSEMBLIES UL-1426 Tinned Boat Cable

Ancor™ Marine Grade Standard Battery Cable Assemblies are manufactured with Ancor's premium UL1426 tinned copper battery cable. The battery cable is fine stranded to produce maximum conductivity and flexibility. In addition, all Ancor™ battery cable is flame retarded, UV inhibited, rated to 600V and 105°C. The lugs are tinned copper to avoid corrosion and last longer. Each end has a piece of Ancor's adhesive lined 3:1 heatshrink tubing placed over the electrical connection. The heatshrink tubing seals out moisture and other corrosive elements found in the marine environment, and provides strain relief to ensure a longer lasting battery connection.

Cable Size	Color	Length		Stud Size		Item #
		(in)	(cm)	(in)	(mm)	
4 AWG 21 mm ²	Black	18	45.7	5/16	7.93	189130
		32	81.2	5/16	7.93	189134
		48	121.9	5/16	7.93	189136
	Red	18	45.7	3/8	9.5	189131
		32	81.2	3/8	9.5	189135
		48	121.9	3/8	9.5	189137
	Yellow	18	45.7	3/8	9.5	189120
		32	81.2	3/8	9.5	189121
		48	121.9	3/8	9.5	189122
2 AWG 34 mm ²	Black	18	45.7	5/16	7.93	189140
		32	81.2	5/16	7.93	189144
		48	121.9	5/16	7.93	189146
	Red	18	45.7	3/8	9.5	189141
		32	81.2	3/8	9.5	189145
		48	121.9	3/8	9.5	189147
	Yellow	18	45.7	3/8	9.5	189123
		32	81.2	3/8	9.5	189124
		48	121.9	3/8	9.5	189125



Marine Grade™ Battery Cable Assemblies	
For Continuous Current Draws up to:	Use Battery Cable Assemblies
136 Amps	4 AWG
178 Amps	2 AWG

Coaxial Cable Assemblies

Premium Tinned Copper

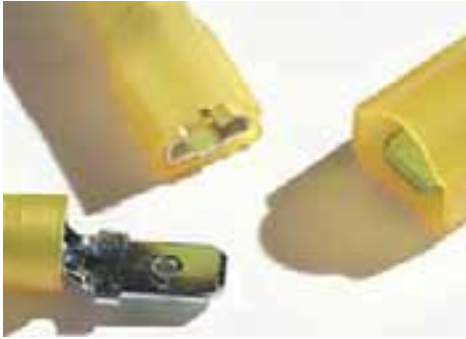
- All assemblies come with Ancor™ Adhesive Lined Heat Shrink to seal out moisture, provide strain relief and fight corrosion.
- 96% Tinned copper braid for optimum protection against signal loss.
- One end pre-assembled coaxial cable packages for RG58 and RG8X come with Ancor's twist-on UHF plugs for easy installation.
- No solder or special tools required.
- Special low loss SAT NAV extensions.

Wire Size	Ends Description	Wire Length(ft)	Item #
RG58CU	Two ends assembled	3	189800
		12	189802
RG8X	One end assembled	35	189834
		50	189849



Coaxial Cable Specs – 100% Tinned Copper Center Conductor and Braid

Wire Type	Insulation Material	Nominal O.D.	AWG	Conductor Stranding	Braid Coverage	Wt. per 1000' (lbs)	Impedance (Ohms)	Capacitance/ Ft.	Attenuation/100'			Velocity of Propagation
									@50MHz	@100MHz	@1000MHz	
RG58C/U	PVC*	3/16"	20	19/33	96%	26	50	30.8 pF	3.3db	4.9db	21.5db	66%
		4.8 mm				11.8 kg						
RG59U	PVC	1/4"	23	Solid**	96%	36	75	20.5 pF	2.4db	3.4db	12.0db	66%
		6.4 mm				16.3 kg						
RG8X	PVC	1/4"	16	19/29	96%	40	50	26.0 pF	2.5db	3.7db	13.5db	78%
		6.4 mm				18.1 kg						
RG8U	PVC	13/32"	13	7/21	96%	110	52	29.5 pF	1.3db	2.2db	8.9db	66%
		10.3 mm				50 kg						



- Ancor's Marine Grade™ terminals differ from automotive terminals by being designed for the harsh marine environment.
- Nylon insulators are easy to crimp and will not split.
- Barrels are designed to tightly grip the wire with the least effort.
- Tinned copper gives the least electrical resistance but the most corrosion protection.

Ring Terminals

Nylon Insulated with Insulation Grip
Double Crimp, Funnel Entry • UL 486C

Wire Range	Screw Size	Qty/ Pkg	Item #
22 - 18	6	6	230201
	0.3-0.8 mm ² 3.6 mm	25	210201
22	8 4 mm	6	230202
		25	210202
		100	220202
		500	222202
		6	230203
10 4.8 mm	25	210203	
	100	220203	
	500	222203	
1/4 6.4 mm	25	210204	
	100	220204	
5/16 7.9 mm	5	230205	
	25	210205	
3/8 9.5 mm	100	220205	
	5	230206	
	25	210206	
100		220206	
		220206	
		220206	
		220206	
16 - 14	6	6	230211
	1-2 mm ² 3.6 mm	25	210211
8 4 mm	100	220211	
	500	222211	
	6	230212	
	25	210212	
10 4.8 mm	100	220212	
	500	222212	
	6	230213	
	25	210213	
100		220213	
		220213	
		220213	
		220213	
1/4 6.4 mm	5	230214	
	25	210214	
5/16 7.9 mm	100	220214	
	500	222214	
	5	230215	
3/8 9.5 mm	25	210215	
	100	220215	
500		222215	
		222215	
		222215	

Wire Range	Screw Size	Qty/ Pkg	Item #
12 - 10	6	5	230221
	3-5 mm ² 3.6 mm	25	210221
8 4 mm	100	220221	
	500	222221	
	5	230222	
	25	210222	
	100	220222	
	500	222222	
	5	230223	
	25	210223	
	100	220223	
	500	222223	
1/4 6.4 mm	4	230224	
	25	210224	
5/16 7.9 mm	100	220224	
	4	230225	
3/8 9.5 mm	25	210225	
	100	220225	
1/2 12.7 mm	4	230226	
	25	210226	
8 8 mm ²	100	220226	
	500	222226	
10 4.8 mm	2	230227	
	25	210227	
1/4 6.4 mm	50	220227	
	2	230233	
5/16 7.9 mm	25	210233	
	100	222233	
3/8 9.5 mm	2	230234	
	25	210234	
1/2 12.7 mm	100	222234	
	2	230235	
5/16 7.9 mm	25	210235	
	100	222235	
3/8 9.5 mm	2	230236	
	25	210236	
1/2 12.7 mm	100	222236	
	1	230237	
8 8 mm ²	25	210237	
	100	222237	

Wire Range	Screw Size	Qty/ Pkg	Item #
6	10	1	230243
	13 mm ² 4.8 mm	25	210243
1/4 6.4 mm	100	222243	
	1	230244	
	25	210244	
	100	222244	
	1	230245	
	25	210245	
	100	222245	
	1	230246	
	25	210246	
	100	222246	
1/2 12.7 mm	1	230247	
	1	230253	
4	10	1	230253
	21 mm ² 4.8 mm	1	230254
1/4 6.4 mm	1	230254	
	1	230255	
5/16 7.9 mm	1	230255	
	1	230256	
3/8 9.5 mm	25	210256	
	1	230257	
1/2 12.7 mm	1	230257	



CONNECTORS & TERMINALS

Flanged Spades

Nylon Insulated with Insulation Grip • Double Crimp, Funnel Entry • UL 486A

Wire Range	Screw Size	Qty/ Pkg	Item #	
22 - 18 0.3-0.8 mm ²	6	6	230301	
	3.6 mm	25	210301	
	8	6	230302	
	4 mm	25	210302	
		100	220302	
	10	6	230303	
	4.8 mm	25	210303	
		100	220303	
	16 - 14 1-2 mm ²	6	6	230311
		3.6 mm	25	210311
		100	220311	
8		6	230312	
4 mm	25	210312		
	100	220312		

Wire Range	Screw Size	Qty/ Pkg	Item #
16 - 14 1-2 mm ²	10	6	230313
	4.8 mm	25	210313
		100	222313
12 - 10 3-5 mm ²	6	5	230321
	3.6 mm	25	210321
	8	5	230322
	4 mm	25	210322
		100	220322
	10	5	230323
	4.8 mm	25	210323
		100	220323



Disconnects

.250 / 6.4 mm Tab Size UL 310

Nylon Insulated with Insulation Grip

Double Crimp, Funnel Entry

Wire Range	Gender	Qty/ Pkg	Item #
16 - 14 1-2 mm ²	Female	5	230818
		25	210818
		100	220818
	Male	5	230819
		25	210819
		100	220819
12 - 10 3-5 mm ²	Female	4	230828
		25	210828
		100	220828
	Male	4	230829
		25	210829
		100	220829



Fully Insulated Disconnects

.250 / 6.4 mm Tab Size UL 310

Nylon Insulated with Insulation Grip

Double Crimp, Funnel Entry

Wire Range	Gender	Qty/ Pkg	Item #
22 - 18 0.3-0.8 mm ²	Female	4	231408
		25	211408
		100	221408
	Male	4	231409
		25	211409
		100	221409
16 - 14 1-2 mm ²	Female	4	231418
		25	211418
		100	221418
	Male	4	231419
		25	211419
		100	221419
12 - 10 3-5 mm ²	Female	3	231428
		25	211428
		100	221428
	Male	3	231429
		25	211429
		100	221429



Pin Terminal Blocks

Amps	Volts	Gang	Height	Width	Length (in)	Length (mm)	Qty/ Pkg	Item #
26	380	4	0.65"	0.83"	1.50	38	1	553091
		8	16.5 mm	21 mm	3.07	78	1	553093
		12			4.61	117	1	553095



Meets ABYC standards: has a stainless steel wire protector to prevent damage from screw.

Recessed terminal body and zinc plated, yellow chromated screws prevent accidental short circuits.

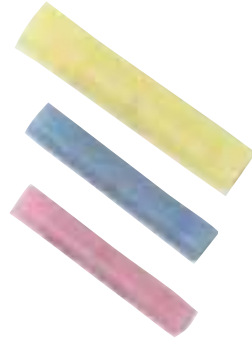
UL and CSA listed

Molding is polyimide and self extinguishing to UL94.

Butt Connectors - Single Crimp

Nylon Insulated Seamless
UL 486C

Wire Range	Qty/Pkg	Item #
22 - 18 0.3-0.8 mm ²	7	230100
	25	210100
	100	220100
16 - 14 1-2 mm ²	7	230110
	25	210110
	100	220110
	500	222110
12 - 10 3-5 mm ²	5	230120
	25	210120
	100	220120



Butt Connectors - Double Crimp

Nylon Insulated with Insulation Grip
Funnel Entry • UL 486C

Wire Range	Qty/Pkg	Item #
22 - 18 0.3-0.8 mm ²	3	230161
	25	210161
	100	220161
	500	222161
16 - 14 1-2 mm ²	3	230162
	25	210162
	100	220162
	500	222162
12 - 10 3-5 mm ²	2	230163
	25	210163
	100	220163



Butt Connectors

Vinyl Insulated • UL 486C

Wire Range	Qty/Pkg	Item #
8 8 mm ²	2	230130
	25	210130
6 13 mm ²	1	230140
	25	210140
4 21 mm ²	1	230150
	25	210150



Snap Plugs

Nylon Insulated with Insulation Grip • UL 310
Double Crimp, Funnel Entry

Wire Range	Screw Size	Qty/Pkg	Item #
22 - 18 0.3-0.8 mm ²	Male	4	230708
		25	210708
		100	220708
	Female	4	230709
		25	210709
		100	220709
16 - 14 1-2 mm ²	Male	4	230718
		25	210718
		100	220718
	Female	4	230719
		25	210719
		100	220719



Step-Down Butt Connectors

Vinyl Insulated • UL 486C

Wire Range	Qty/Pkg	Item #
16 - 14 to 22 - 18 1-2 mm ² to 0.3-0.8 mm ²	3	230164
	25	210164
12 - 10 to 16 - 14 3-5 mm ² to 1-2 mm ²	3	230165
	25	210165
8 to 12 - 10 8 mm ² to 3-5 mm ²	3	230166
	25	210166



DrySeal™ Connectors

- Truly submersible, rated operable from -40° F to 221° F, under conditions of salt water spray and severe vibration.
- Sealing integrity is maintained even with exposure to gasoline, diesel fuel, anti-freeze, ozone and ultraviolet light to 3 feet.
- Seals intact under harsh conditions. Resistant to chemical exposure. One-piece, molded body.
- 14 AWG Rated to 400V AC, 15 Amps.
- 6 AWG Rated to 400V AC, 85 Amps.
- Temp. rated -40° to 221°F (-40° to 105°C).

Cable Size	Description	Conductor Colors	Qty/Pkg	Item #
14/2 2 x 2 mm ²	Two Conductor	Red, Yellow	1	249003
6 13 mm ²	One Conductor	Black	1	249013
6 13 mm ²	One Conductor	Red	1	249014
14/2 2x2 mm ²	Two Conductors	Red, Yellow	1	249007



CONNECTORS & TERMINALS

Coax Cable Fittings

	Description	Hex	Wire Size	Qty/ Pkg	Item #
UHF Connectors	Crimp-On UHF Male Plug (PL259)	.255/.213	RG58	1	201175
		.255	RG8X	1	201176
		.405	RG8U	1	201259
	Crimp-On UHF Male Plug (PL259)		RG58	1	202175
			RG8X	1	202176
	Reducing Adapter (UG175 & UG176)		RG58	1	200175
	Solder On UHF Male Plug (PL259)		RG8U	1	200259
	Double Female (PL258)			1	200258
	Deck Bulkhead Feed (PL258)			1	200250
Cap for Deck Bulkhead Feed (2.5" long)			1	200252	
BNC Connectors	Crimp-On Male Plug	.320/.250	RG59	1	203100
F Connectors TV/VCR	Crimp-On	.324	RG59U	1	200590
	Weather Tight Crimp-On	.324	RG59U	1	200591



Installation Instructions for Twist-On Connectors

To install Ancor™ twist-on connectors, strip the cable to expose 9/16" of the center conductor. Strip the outer jacket to expose 1/4" of the braid. Make sure that the braided shield does not touch the inner conductor.

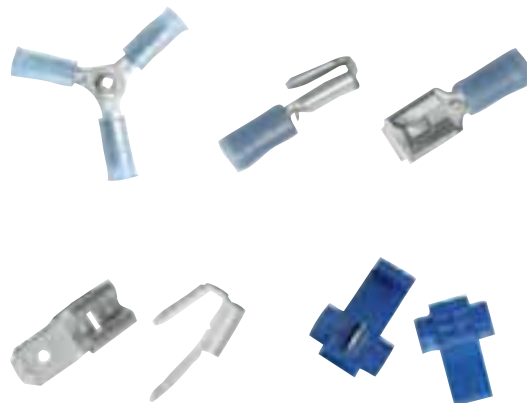
Insert the cable into the connector until the center conductor protrudes through the center of the connector.

Twist the small knurled end while gently pushing the connector onto the cable until resistance is felt. Crimp or solder the center conductor.

Cut off any excess. It is strongly recommended that a piece of Ancor™ 3/4" heat shrink be installed on all exterior UHF connectors to waterproof and relieve strain.

Specialty Connectors

Description	Wire Range	Qty/ Pkg	Item #
3-Way Connector	16 - 14	1	230510
Nylon Insulated with Insulation Grip	1-2 mm ²	25	210510
Double Crimp, Funnel Entry UL 310	12 - 10	1	230520
	3.5 mm ²	25	210520
Multi-Stack Connector	16 - 14	3	230612
Nylon Insulated w/ Insulation Grip	1-2 mm ²	25	210612
Double Crimp, Funnel Entry UL 310 .250 tab 6.4 mm		100	220612
		5	230613
Double Male-Female Adapter .250 tab 6.4 mm		25	210613
		4	230615
Splice Connectors	18 - 14 0.8-2 mm ²	4	230615
		25	210615
		100	220615





- Ancor Marine Grade™ lugs are manufactured from heavy duty annealed tinned copper, providing for maximum current flow.
- 100% tin plated copper resists corrosion from salt and moisture.
- Seamless barrel design allows for maximum strength when crimped.
- Closed end design seals out moisture so cables stay dry and corrosion free.

Heavy Duty Lugs

100% Tinned Copper • UL 486A

Cable Range	Screw Size (in)	Screw Size (mm)	Qty/Pkg	Item #
8 8 mm ²	10	4.8	2	252233
			25	242233
			100	244233
	1/4	6.4	2	252234
			25	242234
			100	244234
	5/16	7.9	2	252235
			25	242235
			100	244235
	3/8	9.5	2	252236
			25	242236
			100	244236
1/2	12.7	2	252237	
		10	242237	
		100	244237	
5/16 & 3/8	7.9 & 9.5	1/1	252231	
6 13 mm ²	10	4.8	2	252243
			25	242243
			100	244243
	1/4	6.4	2	252244
			25	242244
			100	244244
	5/16	7.9	2	252245
			25	242245
			100	244245
	3/8	9.5	2	252246
			25	242246
			100	244246
1/2	12.7	2	252247	
5/16 & 3/8	7.9 & 9.5	1/1	252241	
4 21 mm ²	10	4.8	2	252253
			25	242253
			100	244253
	1/4	6.4	2	252254
			25	242254
			100	244254
	5/16	7.9	2	252255
			25	242255
			100	244255
	3/8	9.5	2	252256
			25	242256
			100	244256
1/2	12.7	2	252257	
		10	242257	
		100	244257	
5/16 & 3/8	7.9 & 9.5	1/1	252251	

Cable Range	Screw Size (in)	Screw Size (mm)	Qty/Pkg	Item #
2 34 mm ²	1/4	6.4	2	252264
			25	242264
			100	244264
	5/16	7.9	2	252265
			25	242265
			100	244265
	3/8	9.5	2	252266
			25	242266
			100	244266
	1/2	12.7	2	252267
5/16 & 3/8	7.9 & 9.5	1/1	252261	
1 42 mm ²	1/4	6.4	2	252274
			25	242274
			100	244274
	5/16	7.9	2	252275
			25	242275
			100	244275
	3/8	9.5	2	252276
			25	242276
			100	244276
	1/2	12.7	2	252277
5/16 & 3/8	7.9 & 9.5	1/1	252271	
1/0 53 mm ²	1/4	6.4	2	252284
			25	242284
			100	244284
	5/16	7.9	2	252285
			25	242285
			100	244285
	3/8	9.5	2	252286
			25	242286
			100	244286
	1/2	12.7	2	252287
5/16 & 3/8	7.9 & 9.5	1/1	252281	
2/0 68 mm ²	1/4	6.4	2	252294
			25	242294
			100	244294
	5/16	7.9	2	252295
			25	242295
			100	244295
	3/8	9.5	2	252296
			25	242296
			100	244296
	1/2	12.7	2	252297
			10	242297
			100	244297
5/16 & 3/8	7.9 & 9.5	1/1	252291	
3/0	5/16	7.9	2	252715

Cable Range	Screw Size (in)	Screw Size (mm)	Qty/Pkg	Item #		
85 mm ²			10	242715		
			3/8	9.5	2	252716
					10	242716
	1/2	12.7	2	252717		
			10	242717		
			100	244717		
4/0 107 mm ²	5/16	7.9	2	252725		
			10	242725		
			100	244725		
	3/8	9.5	2	252726		
			10	242726		
			100	244726		
1/2	12.7	2	252727			
		10	242727			
		100	244727			

Heavy Duty Butt Connectors

100% Tinned Copper • UL 486A

Wire Range	Qty/Pkg	Item #
8	2	252130
8 mm ²	25	242130
6	2	252140
13 mm ²	25	242140
4	2	252150
21 mm ²	25	242150
2	2	252160
34 mm ²	25	242160
1	2	252170
42 mm ²		
1/0	2	252180
53 mm ²	25	242180
2/0	2	252190
68 mm ²		



LUGS/BATTERY TERMINALS

Lead Battery Terminals

Description	Stud Size	Qty/ Pkg	Item #
Wing Nut Style Yellow Brass Nut	Negative 5/16 7.9 mm	1	260100
	Positive 3/8 9.5 mm	1	260200
Pos/Neg	5/16 & 3/8 7.9 & 9.5 mm	1/1	260325



Tinned Copper Battery Terminals

Description	Stud Size	Qty/ Pkg	Item #
Wing Nut Style Yellow Brass Nut	Negative 5/16 7.9 mm	1	260010
	Positive 3/8 9.5 mm	1	260012
Pos/Neg	5/16 & 3/8 7.9 & 9.5 mm	1/1	260322
Emergency Clamp On Terminal 92% Copper Tin Plated	8 - 2/0 8-68 mm ²	1	260005



Battery Terminal Boots

Description	Size	Color	Qty/ Pkg	Item #
Wing Nut Style	4 & 2 19 & 32 mm ²	Black/Red	1/1	260350
Rotating Cap	4 & 2 19 & 32 mm ²	Black/Red	1/1	260392
Right Angle	8 - 2 8-32 mm ²	Red	1	260381



Battery Terminal Accessories

Description	Size	Color	Qty/ Pkg	Item #
Battery Clips	Red/Black	10 Amp	1/1	260505





- Ancor heat shrink connectors offer heat activated adhesive built into the sleeve of the heat shrink tubing
- Shrinks to form a water tight seal and the ultimate vibration and strain relief.
- Tinned for corrosion resistance.
- Pure copper for maximum current flow. Brazed seam for maximum strength.
- UL Listed and CSA Recognized

Adhesive Lined Heat Shrink Ring Terminals

UL 486C

Wire Range	Screw Size	Qty/ Pkg	Item #
22 - 18 0.3-0.8 mm ²	8	3	310203
	4 mm	25	310225
		100	310299
		3	310303
	4.8 mm	25	310325
		100	310399
		3	310403
	6.4 mm	25	310425
		100	310499
		5/16	3
	7.9 mm	25	310525
		3/8	3
9.5 mm		25	310625
		100	310699
16 - 14 1-2 mm ²	8	3	311203
	4 mm	25	311225
		100	311299
		3	311303
	4.8 mm	25	311325
		100	311399
		3	311403
	6.4 mm	25	311425
		100	311499

Wire Range	Screw Size	Qty/ Pkg	Item #	
16 - 14 1-2 mm ²	5/16	3	311503	
	7.9 mm	25	311525	
		100	311599	
		3/8	3	311603
	9.5 mm	25	311625	
		100	311699	
		8	3	312203
	12 - 10 3-5 mm ²	4 mm	25	312225
			100	312299
			3	312303
		4.8 mm	25	312325
			100	312399
1/4			3	312403
6.4 mm		25	312425	
		100	312499	
		5/16	3	312503
7.9 mm		25	312525	
		100	312599	
		3/8	3	312603
9.5 mm	25	312625		
	100	312699		



Adhesive Lined Heat Shrink Flanged Spade Terminals

UL 486A

Wire Range	Screw Size	Qty/ Pkg	Item #
22 - 18 0.3-0.8 mm ²	8	3	313203
	4 mm	25	313225
		100	314299
		3	314303
	4.8 mm	25	314325
		100	314399
8		3	315203
16 - 14 1-2 mm ²	4 mm	25	314225
		100	314299
		3	314303
	4.8 mm	25	314325
		100	314399
		8	3
12 - 10 3-5 mm ²	4 mm	25	315225
		100	315299
		3	315303
	4.8 mm	25	315325
		100	315399



ADHESIVE LINED HEAT SHRINK CONNECTORS

Adhesive Lined Heat Shrink Butt Connectors

UL 486C

Wire Range	Qty/ Pkg	Item #
22 - 18 0.3-0.8 mm ²	3	309003
	25	309025
	100	309099
	500	309002
16 - 14 1-2 mm ²	3	309103
	25	309125
	100	309199
	500	309102
12 - 10 3-5 mm ²	3	309203
	25	309225
	100	309299
	500	309202



Splash Proof Snap Plugs w/ Inserts

UL 310

Wire Range	Gender	Qty/ Pkg	Item #
22 - 18 0.3-0.8 mm ²	Male/Female	4	231480
		25	211480
		100	221480
16 - 14 1-2 mm ²	Male/Female	4	231490
		25	211490
		100	221490



Adhesive Lined Heat Shrink Disconnects

UL 310

Wire Range	Gender	Qty/ Pkg	Item #
22 - 18 / .250 0.3-0.8 mm ² /6.4 mm	Female	3	316803
		25	316825
		100	316899
	Male	3	316903
		25	316925
		100	316999
16 - 14 / .250 3-5 mm ² /6.4 mm	Female	3	317803
		25	317825
		100	317899
	Male	3	317903
		25	317925
		100	317999



Adhesive Lined Heat Shrink Snap Plugs

UL 310

Wire Range	Gender	Qty/ Pkg	Item #
22 - 18 / .157 0.3-0.8 mm ² /4 mm	Female	3	318803
		25	318825
		100	318899
	Male	3	318903
		25	318925
		100	318999
16 - 14 / .197 3-5 mm ² /5 mm	Female	3	319803
		25	319825
		100	319899
	Male	3	319903
		25	319925
		100	319999



*See page 71 for Heat Shrink Connector Kits

ADHESIVE LINED HEAT SHRINK TUBING

- Cross Linked polyolefin tubing is much stronger than PVC tubing and will not burn like PVC.
- Heat activated adhesive lining provides impervious seal to salt water, oil, acids, and sunlight as well as providing strain relief.
- Highest shrink ratio - shrinks to 1/3 original size.
- Shrinks at 257° F/125° C.
- Operating temperature range of -40° C to 110° C.
- See page 71 for Heat Shrink Tubing Kits

Adhesive Lined Heat Shrink Tubing (ALT)

UL 224

ALT Dia.	ALT Color	Length (in)	Length (cm)	Qty/Pkg	Item #		
1/8" 3.2 mm	Black	3	7.6	3	301103		
		6	15.2	10	301106		
		12	30.5	10	301124		
		48	122	1	301148		
3/16" 4.8 mm	Black	3	7.6	3	302103		
		6	15.2	10	302106		
		12	30.5	10	302124		
		48	122	1	302148		
1/4" 6.4 mm	Black	3	7.6	3	303103		
		6	15.2	10	303106		
		12	30.5	10	303124		
		48	122	1	303148		
		Clear	3	7.6	1	303303	
			48	122	1	303348	
			Black/Red	3	7.6	1/1	303602
				Red	3	7.6	3
	6	15.2	5		303606		
	12	30.5	5		303624		
	48	122	1		303648		
	Yellow/Red	3	7.6		1/1	303902	
	Yellow	3	7.6		3	303903	
		6	15.2		10	303906	
		12	30.5		10	303924	
		48	122	1	303948		
3/8" 9.5 mm	Black	3	7.6	3	304103		
		6	15.2	5	304106		
		12	30.5	5	304124		
		48	122	1	304148		
	Clear	3	7.6	1	304303		
		48	122	1	304348		
		Blue	3	7.6	3	304403	
			6	15.2	5	304424	
	Black/Red	3	7.6	1/1	304602		
		Red	3	7.6	3	304603	
			6	15.2	5	304606	
			12	30.5	5	304624	
	48		122	1	304648		
	Green		48	122	1	304748	
	White		48	122	1	304848	
	Yellow		48	122	1	304948	
	1/2" 12.7 mm		Black	3	7.6	3	305103
		6		15.2	5	305106	
		12		30.5	5	305124	
		48		122	1	305148	
Black/Red		3	7.6	1/1	305602		

ALT Dia.	ALT Color	Length (in)	Length (cm)	Qty/Pkg	Item #	
3/4" 19 mm	Red	3	7.6	3	305603	
		6	15.2	5	305606	
		12	30.5	5	305624	
		48	122	1	305648	
	Yellow	48	122	1	305948	
		Black	3	7.6	3	306103
	6		15.2	4	306106	
	12		30.5	4	306124	
	48		122	1	306148	
	Black/Red	3	7.6	1/1	306602	
		Red	3	7.6	3	306603
			6	15.2	4	306606
12			30.5	4	306624	
48			122	1	306648	
Green		12	30.5	4	306724	
		48	122	1	306748	
White		48	122	1	306848	
	Yellow/Red	3	7.6	1/1	306904	
Yellow	3	7.6	3	306903		
	6	15.2	4	306906		
	12	30.5	4	306924		
	48	122	1	306948		
	1" 25.4 mm	Black	3	7.6	3	307103
			6	15.2	3	307106
			12	30.5	3	307124
			48	122	1	307148
Black/Red	3	7.6	1/1	307602		
	Red	3	7.6	3	307603	
		6	15.2	3	307606	
		12	30.5	3	307624	
		48	122	1	307648	
	Yellow/Red	3	7.6	1/1	307902	
		Yellow	3	7.6	3	307903
	6		15.2	4	307906	
12	30.5		4	307924		
48	122		1	307948		

Adhesive Lined Tubing Specifications (3:1 ratio)				
Size	Shrinks to	Wire Range(AWG)		
1/8 (3.2mm)	1/32" (0.8 mm)	<18	(< 0.8 mm ²)	
3/16 (4.8mm)	1/16" (1.6 mm)	20 - 12	(0.5-3 mm ²)	
1/4 (6.4mm)	5/64" (2 mm)	16 - 10	(1-5 mm ²)	
3/8 (9.5mm)	1/8" (3.2 mm)	12 - 8	(3-8 mm ²)	
1/2 (12.7mm)	5/32" (4 mm)	8 - 4	(8-19 mm ²)	
3/4 (19mm)	1/4" (6.4 mm)	8 - 2/0	(13-62 mm ²)	
1 (25.4mm)	5/16" (7.9 mm)	2 - 4/0	(32-103 mm ²)	

ADHESIVE LINED HEAT SHRINK TUBING

Adhesive Lined Heavy Wall Battery Cable Tubing (BCT)

UL 224

BCT Dia.	BCT Color	Length		Qty/ Pkg	Item #
		(in)	(cm)		
3/4" 19 mm	Black	3	7.6	3	326103
		6	15.2	3	326106
		12	30.5	3	326124
		48	122	1	326148
	Black/Red Red	3	7.6	1/1	326202
		3	7.6	3	326603
		6	15.2	3	326606
		12	30.5	3	326624
		48	122	1	326648
		1" 25.4 mm	Black	3	7.6
6	15.2			2	327106
12	30.5			2	327124
48	122			1	327148
Black/Red Red	3		7.6	1/1	327202
	3		7.6	3	327603
	6		15.2	2	327606
	12		30.5	2	327624
	48		122	1	327648
	1 - 1/2" 38 mm		Black	48	122



Battery Cable Tubing Specifications (3:1 ratio)

Size	Shrinks to	Wire Range(AWG)
3/4" (19 mm)	1/4" (6.4 mm)	8 - 2/0 (8-62 mm ²)
1" (25.4 mm)	3/8" (9.5 mm)	2 - 4/0 (32-103 mm ²)
1 - 1/2" (38 mm)	1/2" (12.7 mm)	4/0 - 500 MCM (103-253 mm ²)

White Write-On Identification Tubing

- Flattened tube of white Ancor™ 3:1 heat shrink tubing held by polyester strips.
- Tubing will feed through most typewriters and printers for custom labeling applications.
- Once activated with any heat tool, the printing, whether typed or written with a ball point pen, becomes permanent.
- Three inch sleeves may be cut into smaller lengths.
- Printing is permanent and will not wash off or erode when exposed to oils, moisture, air or most solvents.

Note: The White Write-On Tubing does not have Ancor's adhesive lining and should not replace our regular heat shrink for terminal ends.

Recommended Use Range	Diameter	Length (in)	Qty/ Pkg	Item #
.091 to .215	1/4	3	10	300145
2.3-5.5 mm	6.4 mm	7.6 mm		
16 - 10 AWG				
1-5 mm ²				



Micro Therm Heat Gun

- Features Piezo electronic ignition system, providing flame less heat, safe to use around chemicals or by wire bundles when using deflector.
- Powered by refillable cell.
- Flame temperature up to 650°C (1300°F).
- Ideal for work in the bilge where open flame should not be used.
- Butane Not Included



Item # 702027

Mini Pocket Butane Torch

- Electronic ignition system with safety locking switch.
- Flame temperature up to 1300° C (2500°F).
- Compact size allows unit to fit easily into any toolbox.
- Refillable butane cartridge included.
- Butane Not Included



Item # 702024



- Manufactured from the toughest of materials, pure virgin nylon 6/6.
- Marine grade nylon is insoluble in common solvents, alkalis, dilute mineral acids, most organic acids and most petrochemicals.
- Constructed with either natural or ultraviolet resistant black nylon in both standard and mounting head styles.
- Operating temperature range is 100% capacity up to 65° C, 50% capacity from 65° to 185° C.

Nylon Standard Cable Ties

UL 94 v-2

Length (in)	Cable Tie Width	Max Bundle Dia.	Tensile Strength (lbs)	Color	Qty/Pkg	Item #
4 10.2 cm	.10" 2.5 mm	13/16" 2 mm	18 8 kg	Natural	25	351122
				UV Black	25	351222
					100	351225
6 15.2 cm	.14" 3.6 mm	1-3/8" 3.5 mm	45 13.6 kg	Natural	25	351132
				UV Black	25	351232
					100	351235
8* 20.3 cm	.17" 4.3 mm	2-3/16" 10 mm	75 34 kg	Natural	25	351152
				UV Black	25	351252
					100	351255
11* 28 cm	.17" 4.3 mm	3" 7.6 mm	75 34 kg	Natural	25	351172
				UV Black	25	351272
					100	351275
14* 35.6 cm	.17" 4.3 mm	4" 10.2 mm	75 34 kg	Natural	25	351182
				UV Black	25	351282
					100	351285
15* 38.1 cm	.25" 6.35 mm	4" 10.2 cm	120 54.4 kg	UV Black	25	351207
					100	351208
					1000	351288

*8", 11", 14", and 15" standard ties are DoubleLock™

Nylon Standard Cable Ties Kits

Length (in)	Color	Qty/Pkg	Item #
8"	Assorted colors	24	350024
4-8"	Assorted Natural & UV Black	25	350025

Nylon Mounting Cable Ties

UL 94 v-2



Length (in)	Cable Tie Width	Max Bundle Dia.	Tensile Strength (lbs)	Color	Qty/Pkg	Item #
4 10.2 cm	.10" 2.5 mm	3/4" 1.9 mm	18 8 kg	Natural	25	352122
				UV Black	25	352222
6 15.2 cm	.14" 3.6 mm	1 3/8" 3.5 mm	30 13.6 kg	Natural	25	351140
				UV Black	25	351239
					100	351240
8 20.3 cm	.17" 4.3 mm	2" 5 mm	50 22.7 kg	Natural	25	351148
				UV Black	25	351149
					100	351249
14 35.6 cm	.17" 4.3 mm	4" 10.2 mm	50 22.7 kg	Natural	25	352182
				UV Black	25	352282
					100	352285

Screw Sizes for Mounting Cable Ties			
Length (in)	Screw Size		
4"	10.2 cm	#4	2.8 mm
6"	17.8 cm	#8	4.8 mm
8"	23 cm	#8	4.8 mm
14"	35.6 cm	#10	4.8 mm



Cable Tie Tension Gun

- Adjustable tension feature.
- Automatically cuts off the excess strap flush against the cable tie head.
- Professional tool.
- For use with Ancor™ cable ties.

Item # 700151



WIRE MANAGEMENT

Nylon Cable Clamps

- Made from nylon for maximum strength
- Resistant to solvents, oils, acids and moisture.
- Unique screw hole alignment feature to speed installation.
- Absorbs shock and vibration; reduces unwanted noise



Nominal Diameter (in)	(mm)	Color	Qty/Pkg	Item #
1/8	3.2	Natural	25	401122
3/16	4.8	Natural	25	401182
1/4	6.4	Natural	6	401251
			25	401252
			100	401255
5/16	7.9	UV Black	25	402252
		Natural	25	401312
3/8	9.5	UV Black	25	402312
		Natural	25	401372
1/2	12.7	Natural	100	401375
			25	402372
			25	401502
7/16	11.1	UV Black	25	402502
		Natural	25	401432
5/8	15.9	Natural	25	401622
		UV Black	25	402622
3/4	19	Natural	25	401752
		UV Black	25	402752
1	25.4	Natural	25	401892
		UV Black	25	402892
1-1/4	32	Natural	25	401912
1-1/2	38	Natural	25	401932

Cable Clamp Dimensions			
Nominal Diameter	Thickness	Screw Width	Size
3/16 (4.8 mm)	0.040	3/8 (9.5 mm)	#8 (4 mm)
1/4 (6.4 mm)	0.040	3/8 (9.5 mm)	#8 (4 mm)
5/16 (7.9 mm)	0.040	3/8 (9.5 mm)	#8 (4 mm)
3/8 (9.5 mm)	0.040	3/8 (9.5 mm)	#8 (4 mm)
7/16 (11 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
1/2 (12.7 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
5/8 (15.9 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
3/4 (19 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
7/8 (22.2 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
1 (25.4 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
1-1/4 (31.8 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
1-1/2 (38 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
1-3/4 (44.4 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
2 (50.8 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
2-1/2 (63.5 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)
3 (76.2 mm)	0.060	1/2 (12.7 mm)	#10 (4.8 mm)

#8 = 0.167 / #10 = 0.203

Stainless Steel Cushion Clamps

- Prevents corrosion
- Resistant to oils, acids, salt water
- Temperatures range from -50° to 300° F
- Absorbs shock and vibration
- Reduces unwanted noise



Nominal Diameter (in)	(mm)	Qty/Pkg	Item #
3/16	4.8	10	403182
1/4	6.4	10	403252
5/16	7.9	10	403312
3/8	9.5	10	403372
7/16	11.1	10	403432
1/2	12.7	10	403502
9/16	14.3	10	403562
5/8	15.9	10	403622
3/4	19	10	403752
7/8	22.2	10	403872
1	25.4	10	403892
1-1/4	32	10	403902
1-1/2	38	10	404152
1 3/4	44.4	10	404172
2	51	10	404202
2-1/2	63.5	10	404252
3	76	10	404302

Cable Tie Mounts

UL 94 v-2

Description	Compatible Cable Tie	Screw Size	Qty/Pkg	Item #
Screw	Up to 75 lbs. Up to 34 kg	#8	3	374501
		4 mm	25	374502
			100	374505
Adhesive	Up to 175 lbs. Up to 79.5 kg	#10	25	374602
		4.8 mm	100	374605
Adhesive	Up to 50 lbs. Up to 22.7 kg		25	375002



Screw



Adhesive

Split Loom & Spiral Wrap

- Permits flexible routing of cable harnesses.
- Provides abrasion protection for wire and cable.
- Allows lead outs at any point for greatest ease of installation.

Self-extinguishing Split Loom

Diameter (in)	Color	Ft/ Pkg	Item #
3/8	Black	10	453382
6.4 mm		100	453386
1/2	Black	10	453502
9.5 mm			
3/4	Black	10	453752
12.7 mm		100	453756
1	Black	5	453901
25.4 mm			

Spiral Wrap

Diameter (in)	Color	Ft/ Pkg	Item #
1/4	Black	10	452251
6.4 mm		100	452255
3/8	Black	10	452381
9.5 mm		100	452385
1/2	Black	10	452501
12.7 mm		100	452505
3/4	Black	10	452751
19 mm		100	452755
1	Black	5	452900
25.4 mm		100	452905



ABYC Recommends:

“Conductors that may be exposed to physical damage shall be protected by self-draining; loom, conduit, tape, raceways, or other equivalent protection.” 11.16.4.1.8.

“When AC and DC conductors are run together, the AC conductors shall be sheathed, bundled, or otherwise kept separate from the DC conductors.” 11.16.4.1.5.

“Loom used to cover conductors shall be self-extinguishing. The base product (or resin) shall be classified as V-2 or better, in accordance with UL 94, Tests For Flammability Of Plastic Materials.” 11.16.4.1.9.

Marine Grade™ Spiral Wrap Specifications

Nominal Diameter	Bundle Range	
	Min.	Max.
1/4	0.188	2.0
6.4 mm	4.8 mm	5 cm
3/8	0.313	3.0
9.5 mm	8 mm	7.6 cm
1/2	0.375	4.0
12.7 mm	9.5 mm	10.2 cm
3/4	0.750	5.0
19 mm	19 mm	12.7 cm
1	1.000	7.0
25.4 mm	25.4 mm	17.8 cm

NEW Cable Wraptor®

Simple Design. Endless Solutions.

- “T” handle feature allows for easy carrying from one job to the next.
- Large hang hole is perfect to store and hang.
- Stainless steel hinge and spring to prevent rusting.
- Large teeth design for secure locking system.
- Easy release trigger.
- Cable tie looping hole for permanent attachment.
- Spring-loaded hinge helps close tail.



Description	Qty/ Pkg	Item #
Register Pack		
Cable Wraptor® Medium	25	CW-T2RR25
Cable Wraptor® Large	25	CW-T3RR25
Cable Wraptor® X-Large	20	CW-T4RR20
2 Pack Carded		
Cable Wraptor® 2 Medium	2	CW-T2R2
Cable Wraptor® 2 Large	2	CW-T3R2
Cable Wraptor® 1 Medium/1 Large	2	CW-T2T3R2

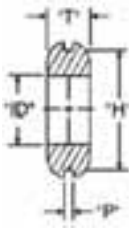
Description	Qty/ Pkg	Item #
Displays		
Cable Wraptor® Desktop Display, Medium	25	CW-T2M25
Cable Wraptor® Desktop Display, Large	25	CW-T3M25
Cable Wraptor® Gravity Feed Display, Medium	75	CW-T2M75
Cable Wraptor® Gravity Feed Display, Large	50	CW-T3M50
Cable Wraptor® Gravity Feed Display, X-Large	40	CW-T4M20
Cable Wraptor® Stackout Display, 100 M / 150 L / 40 XL	290	CW-290

WIRE MANAGEMENT

Grommets

- Provide instant abrasion resistance to wires passing through panel holes.
- Flexible black vinyl makes installation simple.

Hole Size (in)	(mm)	Inside Diameter (in)	(mm)	Panel Width (in)	(mm)	Qty/Pkg	Item #
3/8	9.5	1/4	6.4	3/32	2.4	5	760375
1/2	12.7	3/8	9.5	1/16	1.6	5	760500
1/4 - 3/4		Assortment Combo Pack				45	750000



Wire Seals UL 94 v-0

- Made of Nylon 6/6 flame resistant, self extinguishing Buna-N form seal.
- All seals exceed NEMA 4 x or 6 specs
- Overlapping clamping spines allow for superior pull-out protection and resistance
- Strain relief fittings are resistant to salt water, acids, alkalis, alcohol, oils and are non-corrosive for use in the marine environment.
- Good underwater to 300 feet /91.4 m (150 PSIG) provided there is a liquid tight seal between body and housing.
- Provide low cost cable entries into panels and junction boxes.



Description	For Use with Cable Range (AWG)	Thread Size	Cable Range	Clearance Hole	Body Length	Thread Length	Qty/Pkg	Item #
Round Cable	18, 16, 14, 12, 10	3/8" NPT	.08"-.24" 2 - 6 mm	.68"	.87"	.59"	1	764998
Round Cable	20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 1	1/2" NPT	.00"-.47" 0 - 12 mm	.83"	1.06"	.51"	1	765000
Round or Flat Cable	4,3, 2, 1, 14/2, 12/2, 10/2, 16/3, 14/3, 12/3	1/2" NPT	.24"-.55" 6 - 14 mm	.83"	1.10"	.51"	1	765002
Round Cable	1, 1/0, 2/0, 3/0	3/4" NPT	.51"-.71" 13 - 18 mm	1.05"	1.22"	.51"	1	765004
Round Cable	4/0 AWG	1" NPT	.71"-.98"	1.35"	1.53"	.75"	1	765006



- Heavy duty glass envelope for break resistance.
- Nickel-plated brass bases prevent corrosion while insuring a positive point-of-contact.
- Filaments, with “rough service” design, permit hours of reliable burning.

LED Festoon Bulbs

Figure Letter	Line #	System Dimensions	Volts	Amps	CP	Life	Qty/Pkg	Item #
A	1	.39" x 1.73"	12	80 mA	2000MCD*8	50,000	1	529417
B	2	.39" x 1.73"	12	80 mA	2000MCD*8	50,000	1	529419



LED Bayonet Base Bulbs

Figure Letter	Line #	System Volts	Amps	Current Draw	Color	Life	Qty/Pkg	Item #
C	3	12.00	7000MCD*12	80 mA	Red	50,000	1	521127
	4	12.00	6000MCD*12	80 mA	Amber	50,000	1	521165
D	5	12.00	7000MCD*12	80 mA	Red	50,000	1	521129
	6	12.00	1500MCD*12	80 mA	White	50,000	1	521130



LED 360° Bayonet Base Bulbs

Figure Letter	Line #	System Volts	Amps	Current Draw	Life	Qty/Pkg	Item #
E	7	12.00	2200MCD*20	200 mA	50,000	1	529412
	8	12.00	2200MCD*36	240 mA	50,000	1	529413
F	9	12.00	2200MCD*16	160 mA	50,000	1	529414



LED 360° Double Contact Index Base Bulbs

Figure Letter	Line #	System Volts	Light Output	Current Draw	Life	Qty/Pkg	Item #
G	10	10-30V	75 Lumens	190 mA	50,000	1	529416
	11	10-30V	110 Lumens	180 mA	50,000	1	529420



LED Wedge Base Bulbs

Figure Letter	Line #	System Volts	Light Output	Current Draw	Life	Qty/Pkg	Item #
H	12	12.00	4000MCD	20 mA	50,000	1	529410
I	13	12.00	6000MCD	40 mA	50,000	1	529411



LAMPS

LED G4 Bulb w/ Radial Leads 90° Radiation of Light

Figure Letter	Line #	System Volts	Current Draw	CP	Life	Qty/Pkg	Item #
J	14	12.00	80 mA	2500MCD*8	50,000	1	529421
	15	12.00	80 mA	2500MCD*12	50,000	1	529422
K	16	12.00	180 mA	2500MCD*27	50,000	1	529423



LED MR16 Bulb

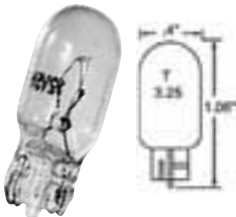
Figure Letter	Line #	System Volts	Current Draw	CP	Life	Qty/Pkg	Item #
L	17	12.00	140 mA	2500MCD*20	50,000	1	529424



(M) Miniature Flange Base



(N) Wedge Base



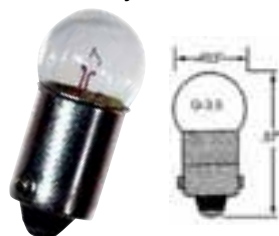
General Lamps

Figure Letter	Line #	Trade #	System Volts	Design Volts	Design Amps	Design Watts	CP	Life	Qty/Pkg	Item #
M	18		4.80	4.80	.62	3.00	4.06		2	521128
	19	PR15	4.82	4.82	.50	2.40	2.00	30	2	520015
N	20	194	12.00	14.00	.27	3.80	2.00	1500	2	520194
	21	168	12.00	14.00	.35	4.90	3.00	1500	2	520168
	22		12.00	12.80	1.0	12.8	12.00		2	520912
O	23	906	12.00	13.00	.69	9.00	6.00	1000	2	520906
P	24	53	12.00	14.40	.12	1.70	1.00	1000	2	520053
	25		12.00	14.00	.35	5.0	3.0		2	521126
Q	26	257*	12.00	14.00	.27	3.80	1.60	500	2	520257
	27	57	12.00	14.00	.24	3.40	2.00	500	2	520057
R	28	1816	12.00	13.00	.33	4.30	3.00	1000	2	521816
S	29	1416	12.00	12.80	.80	10.20	8.00	1000	2	521416
	30		12.00	13.50	2.08	25.00	30.00		1	521159

(O) Wedge Base



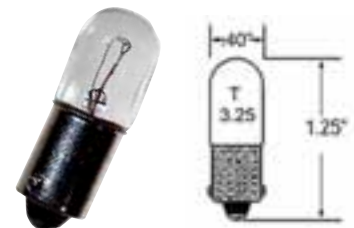
(P) Miniature Bayonet Base



(Q) Miniature Bayonet Base



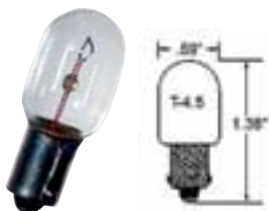
(R) Miniature Bayonet Base



General Lamps

Figure Letter	Line #	Trade #	System Volts	Design Volts	Design Amps	Design Watts	CP	Life	Qty/Pkg	Item #
T	31	1004	12.00	12.80	.94	12.00	15.00	200	2	521004
	32		120.00	120.00	.12	15.00	9.1		1	521161
U	33	82	6.00	6.50	1.02	6.60	6.00	500	2	520082
	34	68	12.00	13.50	.59	8.00	4.00	5000	2	520068
	35	90	12.00	13.00	.58	7.50	6.00	750	2	520090
	36	304	24.00	28.00	.30	8.40	6.00	500	2	520304
	37	1224	32.00	34.00	.16	5.10	3.80	500	2	521224
	V	38	94	12.00	12.80	1.04	13.30	15.00	700	2
39			32.00	34.00	.44	15.00	15.00	150	1	521160
40		1076	12.00	12.80	1.80	23.00	32.00	200	2	521076
41		1142	12.00	12.80	1.44	18.40	21.00	1000	2	521142
42		1142R	12.00	12.80	1.44	18.40	21.00	1000	2	521140
43		1176	12.00	12.8/14	1.34/.39	17.20	21/6	300/1500	2	521176
44		1204	24.00	28.00	.71	19.90	21.00	400	2	521204
45		1228	32.00	34.00	.45	15.30	15.00	150	2	521228
46			32.00	34.00	.44	15.00	15.00	150	1	521160
X		47	1003	12.00	12.80	.94	12.00	15.00	200	2
Y	48	97	12.00	13.50	.69	9.30	4.00	5000	2	520097
	49	67	12.00	13.50	.59	8.00	4.00	5000	2	520067
Z	50	1383	12.00	13.00	1.54	20.00	300		1	521383
	51	93	12.00	12.80	1.04	13.30	15.00	700	2	520093
	52	1141	12.00	12.80	1.44	18.40	21.00	500	2	521141
AA	53	1156	12.00	12.80	2.10	26.90	32.00	1200	2	521156
AB	54	1034	12.00	12.8	1.8	23/8.2	32/3	200/5000	2	521034
	55	1157	12.00	12.8/14	2.1/.59	27/8		200/5000	2	521157
	56		12.00	13.50	.83	10.00	12.00	1000	1	521158
	57		24.00	24.00	.41	10.00	12.00		1	521162
	58		120.00	120.00	.20	25.00	20.00		1	521163
	AC	59		120.00	120.00	.25	30.00	20.00		1
	60		32.00	36.00	.94	30.00	26.00		1	521167

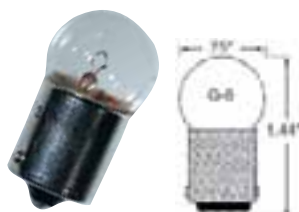
(S) Miniature Bayonet Base



(T) Double Contact Bayonet Base



(U) Double Contact Bayonet Base



(V) Double Contact Bayonet Base



(X) Single Contact Bayonet Base



(Y) Single Contact Bayonet Base



(Z) Single Contact Bayonet Base



(AA) Single Contact Bayonet Base



(AB) Double Contact Index Base



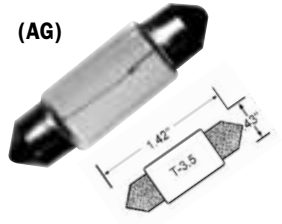
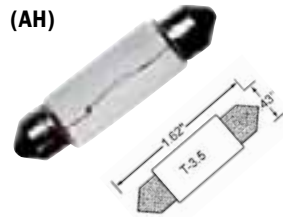
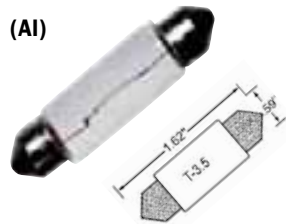
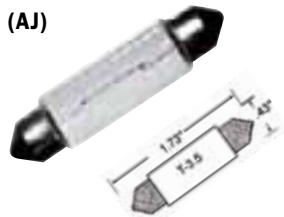
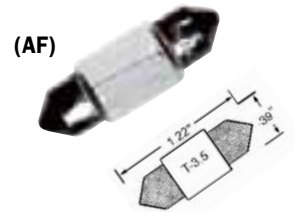
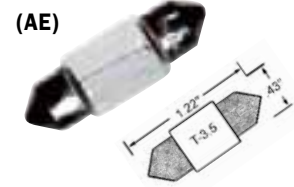
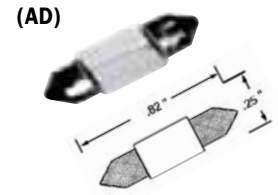
(AC) Double Contact Bayonet Base



LAMPS

Festoon End Caps

Figure Letter	Line #	Trade #	System Volts	Design Volts	Design Amps	Design Watts	CP	Life	Qty/ Pkg	Item #
AD	61		12.00	13.50	.39	4.75	2.00		2	522124
AE	62		12.00	13.50	.83	10.00	8.00	1000	2	529102
	63		12.00	13.50	.83	10.00	(Red)	1000	1	529200
	64		24.00	24.00	.41	10.00	8.0		1	522129
	65		12.00	13.50	.50	6.00	2.00	1000	1	529096
AF	66		12.00	13.50	.83	10.00	8.00		2	522128
	67		12.00	13.50	.50	6.00	2.00	1000	2	529095
	68		12.00	13.50	.83	10.00	8.00	1000	2	529102
	69		12.00	13.50	.83	10.00	8.00	1000	2	529200
AG	70		12.00	13.50	.50	6.00	2.00	1000	2	529095
	71		12.00	13.50	.50	6.00	(Red)	1000	2	529096
AH	72		12.00	13.50	.83	10.00	8.00	2000	2	529104
	73		12.00	13.50	.83	10.00	8.00 (Red)		2	522127
	74		32.00	36.00	.41	13.00	12.00		2	522130
	75		12.00	13.50	.83	10.00	8.00			522126
	76		12.00	13.50	.83	10.00	8.00			529104
AI	77		12.00	13.50	1.42	15.00	8.00			522131
AJ	78	211-2	12.00	12.80	.97	15.00	12.00	1000	2	522112
	79	212-2	12.00	13.50	.74	10.00	6.00	2000	2	522122
	80		12.00	13.50	.83	10.00	8.00	2000	2	529333



Medium Screw Base

Figure Letter	Line #	Trade #	System Volts	Design Volts	Design Amps	Design Watts	Life	Qty/ Pkg	Item #
AK	81	15G12/12	12.00	13.50	1.25	15.00	1000	1	511016
AL	82	15A17/12	12.00	13.50	1.25	15.00	1000	2	531015
	83	25A17/12	12.00	13.50	2.08	25.00	1000	2	531025
	84	50A17/12	12.00	13.50	4.17	50.00	1000	2	531050
	85	75A17/12	12.00	13.50	6.25	75.00	1000	2	531075
	86	100A17/12	12.00	13.50	8.33	100.00	1000	2	531100
	87	25A17/24	24.00	27.00	1.04	25.00	1000	2	532025
	88	15A17/34	32.00	36.00	.44	15.00	1000	2	533015
	89	25A17/34	32.00	36.00	.74	25.00	1000	2	533025
	90	50A17/34	32.00	36.00	1.47	50.00	1000	2	533050
	91	75A17/34	32.00	36.00	2.21	75.00	1000	2	533075



(AK)



(AL)

Navigation Lamps

Figure Letter	Line #	System Volts	Design Volts	Design Amps	Design Watts	CP	Life	Qty/Pkg	Item #
AM	92	12.00	12.00	2.50	30.00	26.00	1200	1	529300
	93	24.00	24.00	1.67	40.00	28.00	1200	1	521166
	94	120.00	120.00	.50	60.00	40.00		1	529307
AN	95	12.00	12.00	2.08	25.00	24.00	1200	1	529340
	96	24.00	24.00	1.04	25.00	24.00	1200	1	529341
	97	24.00	24.00	.42	10.00	12.00	1200	1	529344

(AM) Double Contact Bayonet Base



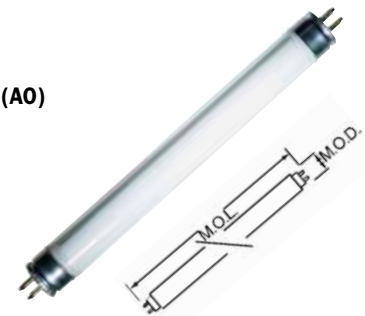
(AN) Double Contact Index Base



Fluorescent Tubes

Figure Letter	Line #	Trade #	Volts	Watts	M.O.L.	M.O.D.	Life	Qty/Pkg	Item #
AO	98			12.00	8.00		1000	1	529405
	99			12.00	15.00		1000	1	529406
	100			12.00	15.00		1000	1	529407
	101			12.00	22.00		1000	1	529408

(AO)

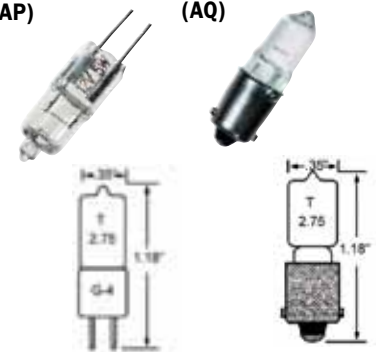


Miniature Halogen Lamps

Figure Letter	Line #	System Volts	Design Volts	Design Amps	Design Watts	CP	Life	Qty/Pkg	Item #
AP	102	12.00	12.00	.42	5.00	5.00	2000	1	529361
	103	12.00	12.00	.83	10.00	11.00	2000	1	529362
	104	12.00	12.00	1.67	20.00	20.00	2000	1	529367
	105	24.00	24.00	.42	10.00	11.00	2000	1	529338
	106	24.00	24.00	.83	20.00	20.00	2000	1	529368
	AQ	107	12.00	12.00	1.67	20.00	20.00	2000	1
108		12.00	12.00	.42	5.00	5.00	2000	1	529355

(AP)

(AQ)



H2/H3 Halogen Lamps

Figure Letter	Line #	Bulb Type	System Volts	Design Volts	Design Amps	Design Watts	CP	Qty/Pkg	Item #
	109	H2	12.00	13.50	4.58	55.00	225.00	1	529168
	110	H2	12.00	13.50	8.30	100.00	100.00	1	529386
	111	H3	6.00	6.50	9.10	55.00	150.00	1	529387

Halogen Lamp Adapter Bases

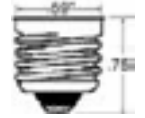
The nickel-plated brass base Halogen Lamp Adapter allows the use of all V style miniature halogen lamps in standard single contact, double contact or medium screw base sockets.

Figure Letter	Line #	Description	Qty/Pkg	Item #
AR	112	D C Bayonet	1	529381
AS	113	Screw with Red Cover	1	529385



(AR)

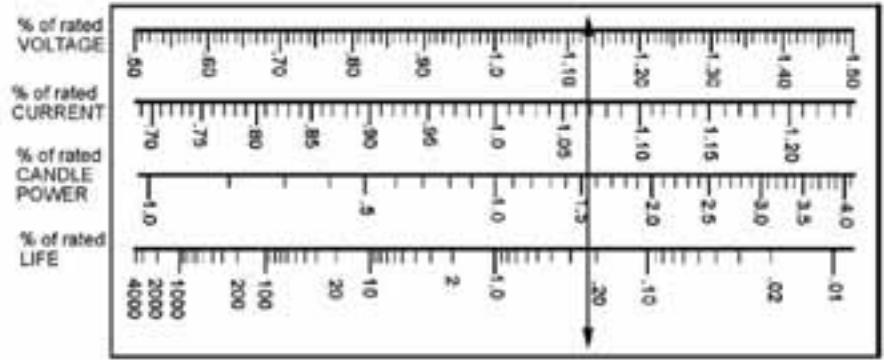
(AS)



LAMPS

Life Lamp Calculator

This lamp life nomograph shows the relationship between voltage, current, candle power and life. Each lamp has a design voltage as well as a nominal operating voltage. This allows the designer of the lamp to tailor the life/output/current draw to meet specific needs, within certain industry standards. We have chosen to emphasize life and brightness. The rated life is based on the average life of 50% of the lamps tested under laboratory conditions – no vibration, stable voltage, room temperature, and in a vertical position. Any other condition will adversely affect lamp life.



Example: To find the effect of under or over voltage on life, current draw and candle power, read in a horizontal line under % of rated voltage. Thus, a #90 bulb rated at 13v but operating at 14.70v (113% of rated voltage - a high charge rate) would have 107% of rated current draw, 155% of rated candle power, but would only last 23% of its rated life.

Cross Reference Listing

Item #	Line #	Figure Letter
511016	81	AK
520015	19	M
520053	24	P
520057	27	Q
520067	49	Y
520068	34	U
520082	33	U
520090	35	U
520093	51	Z
520094	38	V
520097	48	Y
520168	21	N
520194	20	N
520257	26	Q
520304	36	U
520906	23	O
520912	22	N
521003	27	X
521004	31	T
521034	54	AB
521076	40	V
521126	25	P
521127	3	C
521128	18	M
521129	5	D
521130	6	D
521140	42	V
521141	52	Z
521142	41	V
521156	53	AA
521157	55	AB
521158	56	AB
521159	30	S

Item #	Line #	Figure Letter
521160	46	V
521161	32	T
521162	57	AB
521163	58	AB
521164	59	AC
521165	4	C
521166	93	AM
521167	60	AC
521176	43	V
521204	44	V
521224	37	U
521228	45	V
521383	50	Z
521416	29	S
521816	28	R
522112	78	AJ
522122	79	AJ
522124	61	AD
522126	75	AH
522127	73	AH
522128	66	AF
522129	64	AE
522130	74	AH
522131	77	AI
529095	67	AF
529095	70	AG
529096	65	AE
529096	71	AG
529102	62	AE
529102	68	AF
529104	72	AH
529104	76	AH
529168	109	AQ

Item #	Line #	Figure Letter
529200	63	AE
529200	69	AF
529300	92	AM
529307	94	AM
529333	80	AJ
529337	107	AQ
529338	105	AP
529340	95	AN
529341	96	AN
529344	97	AN
529355	108	AQ
529361	102	AP
529362	103	AP
529367	104	AP
529368	106	AP
529381	112	AR
529385	113	AS
529386	110	AQ
529387	111	AQ
529405	98	AO
529406	99	AO
529407	100	AO
529408	101	AO
529410	12	H
529411	13	I
529412	7	E
529413	8	E
529414	9	F
529416	10	G
529417	1	A
529419	2	B
529420	11	G
529421	14	J

Item #	Line #	Figure Letter
529422	15	J
529423	16	K
529424	17	L
531015	82	AL
531025	83	AL
531050	84	AL
531075	85	AL
531100	86	AL
532025	87	AL
533015	88	AL
533025	89	AL
533050	90	AL
533075	91	AL



- Provides reliable automatic circuit protection, power switching, and circuit overload control.
- Designed to ignore nuisance trips, provides a trip-free safety mechanism which cannot be held closed during overcurrent or fault conditions.
- Constructed with the highest marine grade stainless steel springs and specially plated sub-components.
- The magnetic actuator provides greater reliability than thermal actuators.

Sealed Rocker Switches **UL 1077 Recognized**

Certified for prolonged submersion under pressure (front panel sealing) and UL Ignition Protected.

Panel redesign is quick and easy, requiring no tooling change, with removable inter-changeable actuators

Seals out water, dust and debris, locks out elements. Certified to IP66/IP68.

Withstands extreme temperatures. Roller pin mechanism eliminates need for lubricants, so it can withstand from -40°C to + 85°C.

Endurance: 150,000 cycles minimum. Rating: 20 AMP at 12V, 10 AMP at 250 VAC, 15 AMP at 125 VAC

Without Light

Description	Function	Qty/ Pkg	Item #
Single Pole Single Throw	on-off	1	554010
	(on)-off	1	554022
Single Pole Double Throw	on-off-on	1	554026
	(on)-off-(on)	1	554028
Double Pole Single Throw	on-off	1	554030
	on-on	1	554038
Double Pole Double Throw	on-off-on	1	554033
	(on)-off-(on)	1	554035



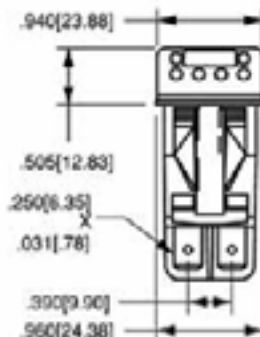
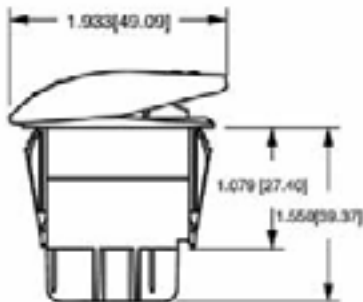
With Light

Description	Function	Qty/ Pkg	Item #
Single Pole Single Throw	on-off	1	554024
	(on)-off	1	554011
Single Pole Double Throw	(on)-off-on	1	554012
	on-off-on	1	554027
	(on)-off-(on)	1	554029
Double Pole Single Throw	on-off	1	554032
Double Pole Double Throw	on-off-on	1	554036
	(on)-off-(on)	1	554016



Red Lens, Clear Lamp

(on) = Momentary

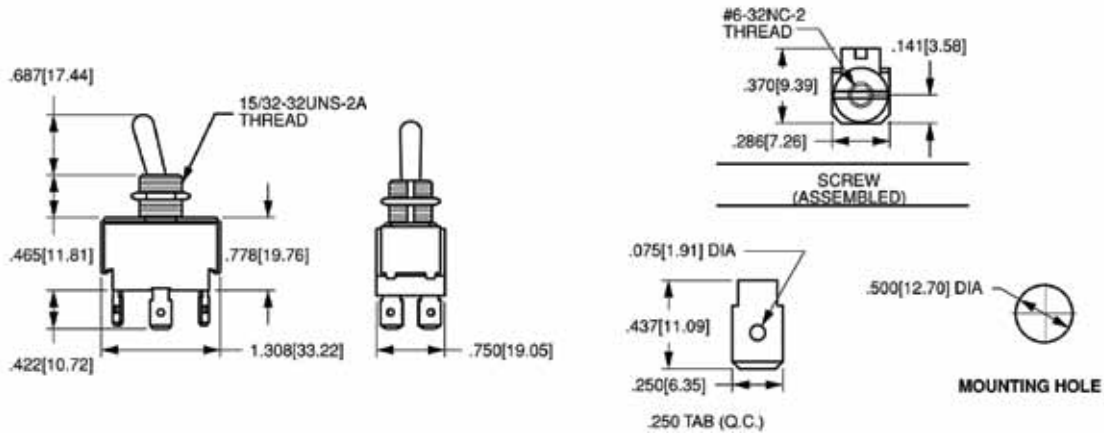


TOGGLE SWITCHES

Nylon Toggle Switches UL 1077 Recognized

Toggle Style	Description	Function	Qty/ Pkg	Item #
Paddle w/ 1/4" Tab 6.4 mm	Single Pole Single Throw	on-off	1	556010
		(on)-off	1	556022
	Single Pole Double Throw	(on)-off-(on)	1	556028

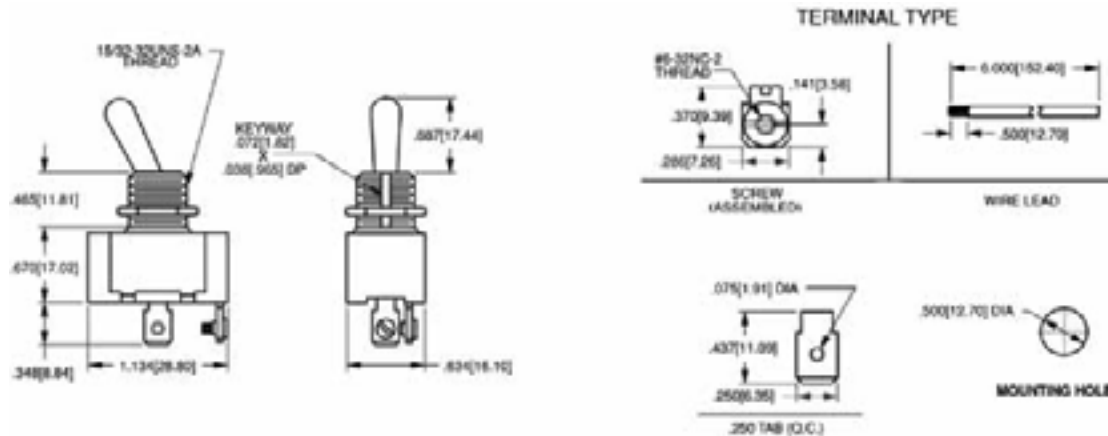
(on) = Momentary



Nickel Plated Brass Toggle Switches UL 1077 Recognized

Toggle Style	Description	Function	Qty/ Pkg	Item #
Bat w/ 1/4" Tab 6.4 mm	Single Pole Single Throw	on-off	1	555010
		(on)-off	1	555022
	Single Pole Double Throw	(on)-off-(on)	1	555025
		on-off-on	1	555026
		(on)-off-(on)	1	555028
	Double Pole Double Throw	on-off-on	1	555033

(on) = Momentary



Waterproof Toggle Switch Boot UL 1077

For use with Nickel Plated Toggle Switches

Color	Qty/ Pkg	Item #
Black	5	555105

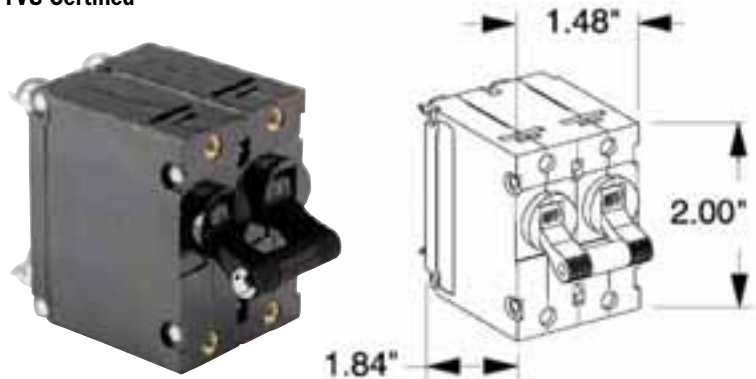


- Now certified in North America and Europe, meets the needs of all worldwide markets!
- Tested and certified by most widely recognized international regulatory agencies including UL (Underwriters Laboratory), CSA (Canadian Standards Association), CE (European Union), VDE (German government approval) and TVU Certified
- Designed for applications requiring higher amperage and voltage handling capability in a compact design
- Protects wiring, motors, generators, telecommunication systems, batteries, and many other applications in the harsh marine environment, fits common panel cutouts
- Mechanical Endurance: 10,000 On-Off operations @ 6 per minute; with rated current & voltage
- Breakers will trip on overload even when actuator is forcibly held in the ON position
- Enhanced, upgraded design of Ancor™ standard single and double pole breakers
- Maximum voltage 250V AC, 65V DC

Magnetic Double Pole AC Circuit Breakers

UL 489A, UL 1077 Recognized, VDE Certified, CE Marked, TVU Certified

Design Amps	Toggle Color	Qty/Pkg	Item #
20	White	1	552820
30	White	1	552830
50	White	1	552850

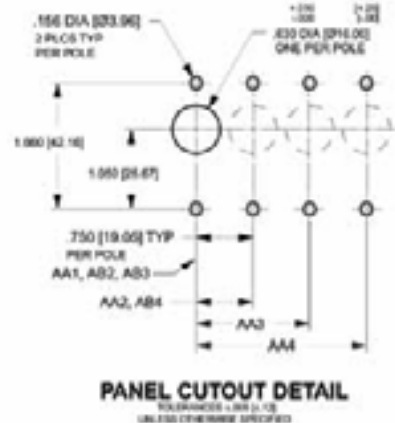
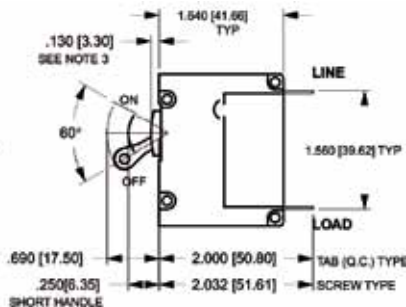
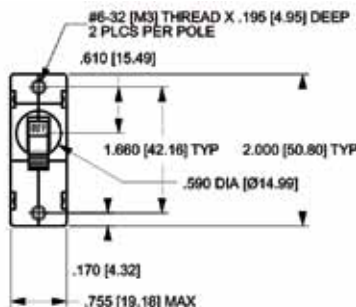
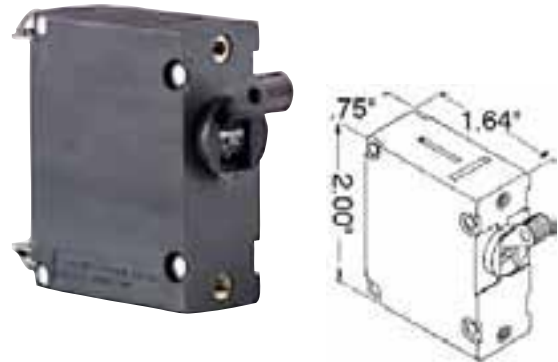


Magnetic Single Pole AC/DC Circuit Breakers

UL 489A, UL 1077 Recognized, VDE Certified, CE Marked, TVU Certified

Design Amps	Toggle Color	Qty/Pkg	Item #
5	Black	1	551505
	Red	1	551605
	White	1	551705
10	Black	1	551510
	Red	1	551610
	White	1	551710
15	Black	1	551515
	Red	1	551615
	White	1	551715
20	Black	1	551520
	Red	1	551620
	White	1	551720

Design Amps	Toggle Color	Qty/Pkg	Item #
25	Black	1	551525
	Red	1	551625
	White	1	551725
30	Black	1	551530
	Red	1	551630
	White	1	551730
40	Black	1	551540
	Red	1	551640
	White	1	551740
50	Black	1	551550
	Red	1	551650
	White	1	551750



ACCESSORIES

Circuit Breaker Accessories

Description	Size	Qty/ Pkg	Item #
Panel Plugs 5/8" (Black) 15.9 mm	Used in Electrical Control Panels	2	553020
Line-to-Line Jumper	Used in Terminal Blocks w/ 5/8" /15.9 mm between holes (100 Amps Total Capacity)	5	553021
Circuit Breaker Bus Bar	Gangs up to 8 Single Pole Breakers w/ 3/4"/19 mm between notches	1	553022
Mounting Screws Black	Nylon (6 - 32 x 5/16") /4x7.9 mm Used in Mounting Circuit Breakers to Electrical Control Panel	12	553041



Modular Brackets

Color	Function	Qty/ Pkg	Item #
Black	End	1	554000
	Middle	1	554001

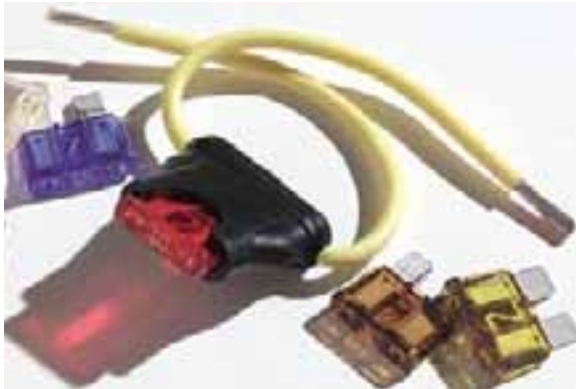


Electrical Control Panels

Control Panels For:	Gang	Width (in)	Height (in)	Panel Color	Qty/ Pkg	Item #
Standard Toggle Breakers	2	2 - 11/16" 6.8 cm	4 - 1/4" 10.8 cm	Black	1	553002
	4	5 - 3/8" 13.7 cm	4 - 1/4" 10.8 cm	Black	1	553004
	6	5 - 3/8" 13.7 cm	7 - 3/8" 18.7 cm	Black	1	553005
	8	5 - 3/8" 13.7 cm	8 - 1/2" 21.2 cm	Black	1	553008



1/8" Thickness



- Fast-acting, corrosion resistant fuses open quickly to protect circuits from overloads and short-circuits.
- Time-delayed to allow temporary, harmless in-rush currents to pass but open on sustained overloads and short-circuits.
- Each fuse tested twice to ensure highest quality.

Marine Fuses

Fuse Style	Design Amps	Qty/ Pkg	Item #
AGC	1/2	5	601005
	1	5	601010
	1.5	5	601015
	2	5	601020
	2.5	5	601025
	3	5	601030
	4	5	601040
	5	5	601050
	7	5	601070
	7.5	5	601075
	8	5	601080
	10	5	601100
	15	5	601150
	20	5	601200
25	5	601250	
30	5	601300	
MDL	3	2	602030
	5	2	602050
	6.25	2	602062
	7.5	2	602075
	10	2	602100
	15	2	602150
	20	2	602200
	25	2	602250
30	2	602300	

AGC (UL 248-14)



MDL (UL 248-18) SLOW BLOW



Fuse Style	Design Amps	Qty/ Pkg	Item #
ATO/ATC	3	2	604003
	5	2	604005
	7.5	2	604007
	10	2	604010
	15	2	604015
	20	2	604020
	25	2	604025
	30	2	604030
ATM	5	2	603905
	10	2	603910
	15	2	603915
	20	2	603920
AGA (UL 248-14)	30	2	603930
	20	5	604200
	30	5	604300
GMA	1	3	605010
	2	3	605020
	3	3	605030
	5	3	605050
	7	3	605070
	10	3	605100
	15	3	605150

ATO/ATC



ATM



AGA (UL 248-14)



GMA (UL 248-14)



ATO/ATC Fuse Panels

- Common negative bus with "push-on" tabs.
- Common positive feed.
- Each branch handles up to 30 amps (160 amp max total).

Fuse Style	Description	Design Amps	Qty/ Pkg	Item #
ATO/ATC	6 Gang	30	1	607122
	12 Gang	30	1	607123



Fuse Dimensions				
Style	Diameter		Length	
	(in)	(mm)	(in)	(mm)
AGC	1/4	6.4 mm	1 - 1/4	32 mm
MDL	1/4	6.4 mm	1 - 1/4	32 mm
AGA	1/4	6.4 mm	5/8	16 mm
GMA	3/16	5.0 mm	13/16	20 mm
ATC	13/16	20.6 mm	3/4	19 mm
ATM	5/16	7.9 mm	7/16	11.11 mm

FUSES

ANL Fuse Blocks

- Glass filled nylon base for durability.
- Fits all ANL and ANN fuses up to 800 amps.
- UL approved.

Description	Fuse Style	Rating (Max Amps)	Item #
Fuse Block	ANL	800	607006



Fuse Holders

Figure Letter	Description	Fuse Style	Rating (Max Amps)	Item #
A	Panel Mount	AGC & MDL	15	607010
	Panel Mount Fuse Holder Cap for 607010			607011
B	Crimp-On 12 - 18 AWG Wire (3-8 mm ²)	AGC & MDL	30	607012
C	Waterproof In-Line 12 - 18 AWG Wire (3-8 mm ²)	AGC & MDL	30	607013
D	Waterproof In-Line 10 AWG Wire (5 mm ²)	AGU	30	607014
E	Waterproof In-Line 12 AWG Wire (3 mm ²)	AGC & MDL	20	607015
F	Heavy Duty In-Line 12 AWG Wire (3 mm ²)	AGC & MDL	30	607016
G	In-Line 12 AWG Wire (3 mm ²)	ATC	30	607017
H	Waterproof In-Line 12 AWG Wire (3 mm ²)	ATO/ATC	30	607019
I	Waterproof In-Line 12 AWG Wire (3 mm ²)	ATM	30	607020
J	Waterproof In-Line 16 AWG Wire (1 mm ²)	ATM	15	607021
K	In-Line 10 AWG (5 mm ²)	ATO/ATC	15	607022
L	In-Line 10 AWG (5 mm ²) With weather resistant cap and tinned copper wire for corrosion resistance	ATO/ATC	30	607023

(A)



(B)



(C)



(D)



(E)



(F)



(G)



(H)



(I-J)



(K-L)



600 Piece Nylon Insulated Connector Kit



- 150 Assorted 22-10 Butt Connectors.
- 300 Assorted 22-10 Ring Terminals.
- 25 Each 16-14 Fully Insulated Male & Female Disconnects.
- 25 Each 16-14 #8 & #10 Flanged Spade Connectors.
- 25 16-14 Female Disconnects.
- 25 12-10 Fully Insulated Female Disconnects.

Item # 250001

257 Piece Heat Shrink Connector Kit w/ Crimper & Mini Torch



- 110 Assorted 22-10 Heat Shrink Butt Connectors.
- 145 Assorted 16-10 Ring Terminals.
- 1 Single Crimp Ratchet Tool.
- 1 Mini Butane Pocket Torch.

Item # 320001

100 Piece Tinned Copper Lug Kit w/ Crimper



- 10 Each #8 5/16" & 3/8" Tinned Lug
- 10 Each #6 5/16" & 3/8" Tinned Lug
- 10 Each #4 5/16" & 3/8" Tinned Lug
- 10 Each #2 5/16" & 3/8" Tinned Lug
- 5 Each 1/0 5/16" & 3/8" Tinned Lug
- 5 Each 2/0 5/16" & 3/8" Tinned Lug
- 1 Heavy Duty Lug Crimper

Item # 255001

314 Piece ATO ATC & AGC Fuse Kit

- 20 ea. 1, 7.5, 25 and 30 AMP AGC Fuses
- 25 ea. 2, 3, 5, 10, 15 and 20 AMP AGC Fuses
- 15 ea. 5, 10, 15 and 20 AMP ATO/ATC Fuses
- 5 ea. 25 and 30 AMP ATO/ATC Fuses
- 4 AGC Panel Mount Fuse Holders
- 4 AGC Waterproof Fuse Holders
- 3 AGC In-Line Fuse Holders
- 2 ATO/ATC In-Line Fuse Holders
- 1 Fuse Puller/Installer

Item # 608001

Promotional Kit Cabinet



Item # P33307
Buy 4 kits get a 4 drawer tray for free



KITS

225 Piece Twin Kit Electrical Repair Kit with Strip/ Crimp Tool

- 55 assorted butt connectors.
- 95 assorted ring terminals.
- 35 assorted disconnects.
- 35 assorted nylon cable ties.
- Assorted, 10' spools of UL 1426 Boat Cable.
- 5 pieces (3" x 3/8") 3:1 shrink ratio, colored heat shrink tubing.
- Opens both sides.

Item # 220020



Coastal Electrical Kit

- 1 Spool #16 & #12 Black, Red UL 1426 Boat Cable
- 100 Pcs. 22 - 18 - 12 - 10 Various Connectors
- 20 Pcs. 22 - 18 - 12 - 10 Heat Shrink Butt Connectors
- 2 Pcs. 1/4" & 3/8" Black Heat Shrink Tubing
- 30 Pcs. 8" & 11" 75lb. Natural and UV Black Cable Tie
- 15 Pcs. 1/4" & 3/8" Natural Clamps
- 10 Pcs. Trade #90, 1004, 1142, 211-2 & 10806 Bulbs
- 15 Pcs. 10, 15 & 20 Amp AGC Fuse
- 4 Ea. Marine Grade™ Tools
- 5 Ea. #8 Screw Adjustable Clamp
- 1 Ea. AGC In-Line & Waterproof Fuse Holder
- 2 Ea. Adhesive Backed Cable Tie Mount
- 1 Ea. ATC Fuse Asst. Pack
- 1 Ea. Emergency Clamp On Terminal
- 1 Coil 15' 16/2 Duplex UL 1426 Boat Cable

Item # 220007

Premium Connector Kits

- Nylon Insulated with Insulation Grip
- Double Crimp, Funnel Entry

Description	Qty/Pkg	Item #
Connector, Assorted Butt, Ring, Spade and Male and Female Disconnects (18 - 10 AWG) plus Crimp Tool	31	220002
Connector, Assorted Butt, Ring, Spade and Male, Female Disconnects (18 - 10 AWG)	120	220003
Connector, Assorted Butt, Ring, Spade and Male and Female Disconnects (18 - 10 AWG) plus Crimp Tool	121	220004



Heat Shrink Tubing Kits UL 224

- Cross Linked polyolefin tubing is much stronger than PVC tubing and will not burn like PVC.
- Heat activated adhesive lining provides impervious seal to salt water, oil, acids, and sunlight as well as providing strain relief.
- Highest shrink ratio - shrinks to 1/3 original size.
- Shrinks at 257° F/125° C.
- Operating temperature range of -40° C to 110°C.

Description	Diameter	Length	Pkg/Qty	Item #
Black	3/16 - 3/4"	3"	8	301503
Adhesive Lined Tubing		6"	8	301506
Assorted Colors	3/8"	3"	5	304503
Adhesive Lined Tubing		6"	5	304506
Assorted Colors	3/4"	3"	4	306503
Adhesive Lined Tubing		6"	4	306506
		12"	4	306524



301506



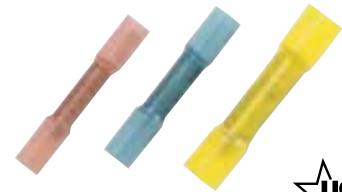
304506



306506

Heat Shrink Connectors

- Ancor™ heat shrink connectors offer adhesive built into the sleeve of the heat shrink tubing
- Shrinks to form a water tight seal and the ultimate vibration and strain relief.
- Tinned for corrosion resistance.
- Brazed seam for maximum strength.
- Nylon insulator, preferred by experts, for Marine Grade resistance to sunlight, water, oil, chemicals, vibration and cut-through damage.



Description	Length	Pkg/Qty	Item #
Assorted Butt Connectors	22 - 10	10	300000

Cable Tie Kits

- Manufactured from the toughest of materials, pure virgin nylon 6/6.
- Nylon is insoluble in common solvents, alkalis, dilute mineral acids, and most organic acids and petrochemicals.
- Constructed with either natural or ultraviolet resistant black nylon in both standard and mounting head styles.
- Operating temperature range is 100% capacity up to 65° C, 50% capacity from 65° to 185° C.



Description	Length	Pkg/Qty	Item #
Assorted colors	8"	24	350024
Assorted Natural & UV Black	4 - 8"	25	350025

KITS

Nylon Cable Clamps

- Made from nylon for maximum strength
- Resistant to solvents, oils, acids and moisture.
- Unique screw hole alignment feature to speed installation.
- Absorbs shock and vibration; reduces unwanted noise



Description	Qty/Pkg	Item #
1/8 - 1/2 Natural	54	400000

Fuses

- Fast-acting, corrosion resistant fuses open quickly to protect circuits from overloads and short-circuits.
- Time-delayed to allow temporary, harmless in-rush currents to pass but open on sustained overloads and short-circuits.
- Each fuse tested twice to ensure highest quality.

Description	Qty/Pkg	Item #
ATM Combo Pack (1 ea of 5, 10, 15, 20, & 30 Amps)	5	601110
Marine AGC Fuses (5 Amps - 30 Amps)	5	601112
Deluxe AGC Fuses (1 Amps - 30 Amps)	41	601113
ATO/ATC Fuses (5 Amps - 30 Amps)	6	601114



601110



601112



601114



601113

Heavy-Duty, Voltage-Continuity Tester

Heavy-duty voltage and continuity tester designed for any number of electrical applications.

- Tests voltage from 80–480 VAC/DC (4-range indication)
- Dual function voltage and continuity tester
- Snap-in leads are spaced to fit standard outlet for “hands-free” operation
- Sta-Flex™ 36" cold weather leads
- 4 Hi-Vis™ indicators
- Integrated probe storage
- Operates from (2) LR44 batteries

Item # **ET6207**

Specifications	Range
AC Voltage	80–480V
DC Voltage	80–480V
Frequency	60Hz
Polarity	✓
Continuity	✓
CAT Rating	III 600V



Wire Tracker™ Wire Tracer

A must-have tester for avid boaters and marine technicians.

- Multi-purpose wire tracer for identifying wires such as coax, CAT 5, speaker, phone, or any non-energized (non-live) wires
- Adapter plugs include: RJ-45, RJ-11, coax, automotive fuse blade, and insulated clamps
- Adjustable sensitivity positively identifies a single wire when multiple wires are routed in close proximity
- Audible and visual indication
- Operates from (2) AAA batteries (transmitter) and (4) LR44 batteries (receiver)
- Auto off function included with transmitter to save battery life

Item # **ET64220**

Specifications	Range
Audible	✓
Visual	✓
Receiver Storage	✓
Belt Clip	✓
Tracer	✓



TESTERS

5 Function Analog Multimeter

- Manual range
- Compact, lightweight design
- AC/DC voltage
- DC Current
- Accurate needle deflection
- Operates from one AA battery

Item # HSP5

Specifications	Range	Accuracy
DC Voltage:	0-10/50/150/300V	4.0%
AC Voltage:	0-10/50/150/300V	5.0%
DC Current:	0-0.5/50/150 mA	4.0%
Resistance:	0-1MΩ	4.0%
Decibels:	✓	-20dB to +56dB
CAT Rating:	II 300V	-



7 Function Digital Multimeter

- Auto ranging capability allows the meter to automatically determine the resolution based on the application
- Compact, lightweight design
- AC/DC voltage capable with temperature measurement functionality
- Impact resistant housing with protective rubber overmold
- Operates from (2) AAA batteries

Item # DM6250

Specifications	Range	Accuracy
DC Voltage	200mV, 2V, 20V, 200V, 600V	200mV & 600V (1.0%+5dgt) 2V 20V 200V (0.5%+5dgt)
AC Voltage	200mV, 2V, 20V, 200V, 500V	500V (1.5%+5dgt) 2V 30V 200V (0.8%+5dgt)
Resistance	200, 2K, 200k, 2M, 20M	200Ω 20M (1.5%+2dgt) 2K 20K 200K 2M (1.0%+2dgt)
Battery Testing	1.5V (2V)	-
Temperature	-40°F to 752°F	8%+5dgt
Diode Test	✓	-
Continuity	✓	-
CAT Rating	III 600V	-



9 Function Digital Multimeter

- Test Lead Input Icons for correct lead placement
- Industry leading LCD display size
- Relative Delta displays change in readings
- Low Impedance Function to trace ghost voltage
- Impact resistant housing with protective rubber boot
- Operates from one 9 volt battery

Item # **DM6450**

Specifications	Range	Accuracy
DC Voltage	400mV, 4V, 40V, 400V, 1000V	400mV (0.8%+3dgt) 4V 40V 400V (0.8%+1dgt) 1000V (1.0%+3dgt)
AC Voltage	4V, 40V, 400V, 750V	4V 40V 400V (1.0%+ 5dgt) 750V (1.2%+5dgt)
DC Amps	400µA, 4000µA, 40mA, 400mA, 4A, 10A	400µA 4000µA (1.0%+2dgt) 40mA 400mA (1.2%+3dgt) 4A 10A (1.5%+5dgt)
AC Amps	400uA, 4000uA, 40mA, 400mA, 4A, 10A	400µA 4000µA (1.2%+2dgt) 40mA 400mA (1.5%+3dgt) 4A 10A ±(2.0%+3dgt)
Frequency	10Hz–10MHz	0.1% +3dgt
Capacitance	40nF, 400nF, 4µF, 40µF, 100µF	40nF (3%+10dgt) 400nF, 4µF, 40µF (3%+5dgt) 100µF (4%+5dgt)
Resistance	400, 4K, 40K, 400k, 4M, 40M	4000 4M (1.2%+2dgt) 4K 40K 400K (1.0%+2dgt) 40M (1.5%+2dgt)
Diode Test	✓	–
Continuity	✓	–
CAT Rating	III 600V, II 1000V	–



Automatic Wire Stripper

- Made of reinforced polyimide
- Automatically adjusts to different wire sizes.
- Strips without damage or marking of conductors, slim jaw for easy access, steel side cutter.
- Strips and cuts wire from 24 AWG /0.2 mm² to 12 AWG /3 mm².
- Wire stop adjusts length of strip from 3/8" /9.5 mm to 1/2" /12.7 mm.

Item # **702030**



Coaxial Cable Stripper

- Made of fiberglass reinforced polyimide.
- Sharp blades strip outer and inner insulation of coaxial.
- Will not damage center conductor or braided shield.
- Marked for easy stripping length.
- Strips RG58, RG59, RG8X and RG62.



Item # **702050**

Dielectric Silicone Compound

- Fights oxidation to improve conductivity.
- Penetrates aluminum oxide to maintain current paths.
- Temperature rated 40°-500°F.
- 1/3 oz tube.

Item # **700115**



CUTTERS & STRIPPERS

Battery Cable Stripper

- Made of fiberglass reinforced polyimide, swivel blade for circular and longitudinal cuts.
- Adjustable blade cutting height, comes with extra blades.
- Strips 8 AWG /8 mm² to 4/0 AWG /103 mm² battery cable.
- Slits outer jacket from 14/2 to 6/2 AWG / 2x2 mm² to 2x13 mm² duplex and 16/3 to 6/3 AWG /3x1 mm² to 3x13 mm² triplex wire.

Item # 702065



Cable Tie Tension Gun

- Adjustable tension feature.
- Automatically cuts off the excess strap flush against the cable tie head.
- Professional tool.
- For use with ANCOR standard cable ties.

Item # 700151



Wire & Cable Cutter

- Precision ground and sharpened blades, high strength steel.
- Contoured cushion grip.
- Capacity: 22 AWG /0.3 mm² to 2/0 AWG /62 mm² copper wire & cable (not for steel).

Item # 702005



Heavy Duty Lug / Terminal Crimper

- Calibrated adjustment screw.
- Compound lever action prevents operator fatigue.
- Capacity: Crimps 8 - 4/0 AWG / 8-103 mm² lugs and terminals.

Item # 702040



Heavy Duty Cable Cutter

- Precision ground and sharpened blades
- High strength steel
- Longer handle allows easier cuts with less strain.
- Lightweight fiberglass handles feature comfortable rubber grips
- Cuts non-ferrous cables up to 350 MCM / 177 mm² (2 sizes Larger than 4/0 AWG /103 mm²).

Item # 702006



Heavy Duty Lug Crimper

- Spring loaded pivot bar, designed for use with a hammer or vise.
- Makes UL approved crimps.
- Made from steel with a hardened pivot pin.
- Capacity: Crimps 6 - 4/0 AWG /13-103 mm² lugs and 6 - 3/0 AWG /13-81 mm² terminals.

Item # 701010



Stainless Steel Cut/Strip/Crimp Tool

- Crimp 10-22 AWG insulated and non-insulated terminals and coaxial connectors
- Cut and strip 8-22 AWG solid and 10-24 AWG stranded wire
- Cut and re thread 4-40, 5-40, 6-32, 8-32, 10-24, 10-32 screws
- Stainless steel blade resists corrosion and nicking
- Precision ground plier nose

Item # 701009



Single Crimp Ratchet Tool

- Full cycle crimps on Ancor™ connectors, recommended for Heat Shrink Connectors.
- Jaws are hardened 4150 steel with hardened center less ground pins adjustable for wear.
- Capacity: Crimps terminals and connectors from 22 - 10 AWG /0.3-5 mm2 in three color-coded cavities.

Item # 702010



Cut/Strip/Crimp Tool

- Precision ground cutters and stripping station, wide crimp range of insulated and non-insulated terminals.
- “Box” crimp works with Ancor™ double crimp terminals, marking is embossed and paint filled.
- Capacity: Crimps 22 - 10 AWG /0.3-5 mm2 insulated and non-insulated terminals, connectors and spark plug terminals in special cavities.
- Strips insulation from 22 - 10 AWG /0.3-5 mm2 solid and stranded wires.
- Cuts 4 - 40/2 mm, 6 - 32/4 mm, 8 - 32/4.8 mm, 10 - 32/ 6.4 mm and 10 - 24/6.4 mm bolts.

Item # 701007



Double Crimp Ratchet Tool

- Ratcheting action insures positive crimps, includes release lever.
- Two nests in crimp cavity simultaneously crimps conductor and insulation for maximum strain and fatigue relief.
- Compound lever handle for operator ease.
- Crimps 22 - 10 AWG /0.3-5 mm2 terminals and connectors in three color-coded cavities.

Item # 702017



Double Crimp Ratchet Tool

- UL and ABYC recommended crimps. Will not release until proper crimp is made.
- Jaws are hardened 4150 steel with hardened center less ground pins adjustable for wear.
- Has two nests within each cavity to simultaneously crimp the conductor and make a swage type crimp on wire insulation.
- Crimps 22 - 10 AWG/0.3-5 mm2 terminals and connectors in two color-coded cavities.

Item # 702015



TORCHES

Double Crimp Ratchet Tool

- Ratchet mechanism crimps stranding and insulation grip portion of ANCOR connectors all in one motion for superior strain relief.
- Tool has adjustment feature to allow for wear, and a release lever in event of incorrectly placed terminal.
- Crimps 22 - 10 AWG insulated terminals in three cavities.

Item # 701030



Wire Strip Crimp Tool

- Strips 26 to 10 AWG stranded wire.
- Automatic jaw-load wire stripper self-adjusts to strip wire.
- Crimps 22-10 AWG insulated terminals.

Item # 702033



Turbo Lite

- Child resistant piezo electronic ignition system.
- Powered by butane, inexpensive and readily available
- Flame temperature up to 1300°C/2500°F.
- Windproof and weatherproof flame.
- Flame may be locked in "on" position.

Item # 702064



Micro Therm Heat Gun

- Features Piezo electronic ignition system, providing flame less heat, safe to use around chemicals or by wire bundles when using deflector.
- Powered by refillable cell.
- Flame temperature up to 650°C (1300°F).
- Ideal for work in the bilge where open flame should not be used.

Item # 702027



Mini Pocket Butane Torch

- Electronic ignition system with safety locking switch.
- Flame temperature up to 1300° C (2500°F)
- Compact size allows unit to fit easily into any toolbox.
- Refillable butane cartridge included.
- Butane Not Included.

Item # 702024



Heat Gun

- 2 Heat settings, 500° F /260° C, & 1000° F /538° C.
- Lightweight, 1 lb. /0.5 kg.
- 120 Volts AC, 1200 Watts Max.
- UL Listed.
- Great for shop use or in areas where open flames cannot be used.

Item # 702025



Ultra Therm Heat Tool

- 2 Heat settings, 500° F /260° C, & 1000° F /538° C.
- Lightweight, 1 lb. /0.5 kg.
- 120 Volts AC, 1200 Watts Max.
- UL Listed.
- Great for shop use or in areas where open flames cannot be used.

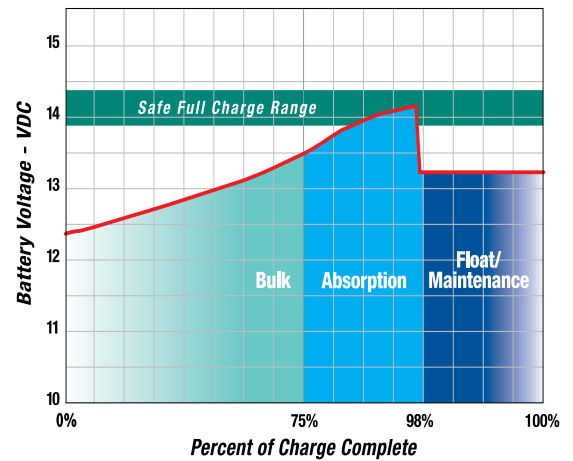
Item # 702061



3-Stage Chargers Maximize Battery Life

More batteries are ruined by improper charging than by over-use. The safest, most efficient way to charge batteries without making them too hot or boiling off electrolyte is in three distinct stages:

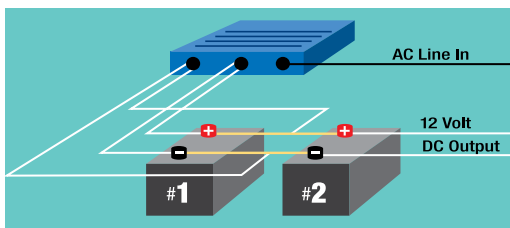
- Bulk Stage: The charger uses its full amp output (constant current), while the battery voltage rises.
- Absorption Stage: The charger regulates the battery voltage at a peak level (constant voltage) while the current flow to the battery decreases.
- Float or Maintenance Stage: Unlike some “trickle chargers,” which apply a constant current to the battery, the Guest float-charge technology only supplies current at the rate it will be accepted by the battery.



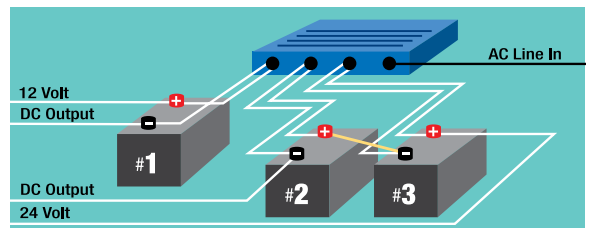
Guest Chargers at Work in Multiple Battery Configurations

In multi-battery applications, the needs of the individual batteries may vary. A “starting” battery, replenished by the alternator, requires a different kind of charge than a deeply-depleted constant-use battery.

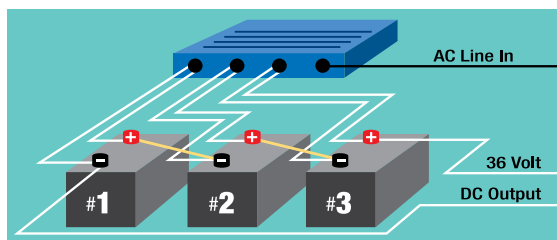
Guest’s multiple-output models include separate boards within the charger housing. Each board functions independently in the charging scheme, and has dedicated cables for its battery, so it can adjust and optimize the charger’s performance for that battery.



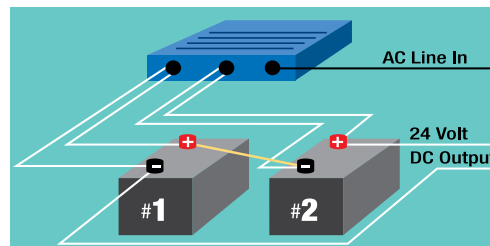
12 Volt (parallel)



12V / 24V-12



36 Volt (series)



24 Volt (series)

Series and Parallel Battery Systems

Batteries can be connected in series or in parallel in order to increase battery capacity or increase battery voltage. Since Guest offers independent boards, Guest chargers can be wired to support a wide variety of wiring configurations.

Parallel Configuration to increase battery amperage

- Connecting batteries in parallel (positive to positive, negative to negative) will result in a battery with the sum of the batteries amperage.
- Example: if two 12 Volt DC, 100 Amp-hr batteries are connected in parallel, the resulting system would have the capacity of 200 Amp-hrs but remain 12 VDC.

Series Configuration to increase battery voltage

- Connecting batteries in series (positive to negative) will result in a battery with voltage equal to the sum of the batteries.
- Example: if two 12 Volt DC, 100 Amp-hr batteries are connected in series, the resulting system would have the voltage of 24 VDC and the amperage still of 100 Amp-hrs.

Caution

- Only identical batteries should be used in parallel or series connections to avoid over-charging conditions.

Charge Pro PLUS

Complete system to extend your fishing time

The Charge Pro PLUS system combines a Guest charger with an Alternator Module to continuously charge the trolling motor or house battery while the engine is running. This one-of-a-kind system allows energy which is normally wasted on a fully charged cranking (or starting) battery bank to be re-directed to the trolling motor or house battery bank – ensuring that all batteries are fully charged. The 12V and 24V Alternator modules are rated for alternator charging systems up to 70 Amps.

- Continuously charges trolling battery whenever your boat engine is running
- Extends fishing time, keeps you on the water longer
- Harness previously unused or wasted alternator power for trolling use
- Extends useful life of expensive trolling batteries



8 Amp Dual Output On-Board Battery Charger and Alternator Module

Item # 36082-12

12V	Battery Charger	
	Total Amps:	8
12V	Outputs:	2
	Amps per out:	4/4
	Battery System:	12V
	Input Voltage:	100 - 130VAC
	Output Voltage:	12V
	AC:	6' AC cord with ConnectCharge™
	DC:	Studs
	Dimensions:	6.3" x 6.8" x 3"
	Weight:	6.0 Lbs.

Alternator Module	
Maximum through current:	70A
Dimensions:	4.1" x 6.8" x 2.8"
Weight:	2.0 Lbs.



8 Amp Dual Output On-Board Battery Charger and Alternator Module (only for 24 V trolling applications)

Item # 36082-24

12V	Battery Charger	
	Total Amps:	8
12V	Outputs:	2
	Amps per out:	4/4
12V	Battery System:	24V
	Input Voltage:	100 - 130VAC
	Output Voltage:	24V
	AC:	6' AC Input Cable with Connect
	DC:	Studs
	Dimensions:	6.3" x 6.8" x 3.0"
	Weight:	6.0 Lbs.

Alternator Module	
Maximum through current:	70A
Dimensions:	4.1" x 6.8" x 2.8"
Weight:	2.0 Lbs.



20 Amp Dual Output On-Board Battery Charger and Alternator Module

Item # 36202-12

<p>12V</p> <p>12V</p> <p>or</p> <p>24V</p>	<p>Battery Charger</p> <p>Total Amps: 20</p> <p>Outputs: 2</p> <p>Amps per out: 10/10</p> <p>Battery System: 12V</p> <p>Input Voltage: 100 - 130VAC</p> <p>Output Voltage: 12V</p> <p>AC: 6' cord with ConnectCharge™ plug</p> <p>DC: Studs</p> <p>Dimensions: 8.0" x 8.9" x 3.0"</p> <p>Weight: 9.5 Lbs.</p>	<p>Alternator Module</p> <p>Maximum 70A through current:</p> <p>Dimensions: 4.1" x 6.8" x 2.8"</p> <p>Weight: 2.0 Lbs.</p>
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20 Amp Dual Output On-Board Battery Charger and Alternator Module (only for 24 V trolling applications)

Item # 36202-24

<p>12V</p> <p>12V</p> <p>12V</p> <p>or</p> <p>12V</p> <p>24V</p>	<p>Battery Charger</p> <p>Total Amps: 20</p> <p>Outputs: 2</p> <p>Amps per out: 10/10</p> <p>Battery System: 24V</p> <p>Input Voltage: 100 - 130VAC</p> <p>Output Voltage: 24V</p> <p>AC: 6' AC cord with ConnectCharge™ plug</p> <p>DC: Studs</p> <p>Dimensions: 8.0" x 8.9" x 3.0"</p> <p>Weight: 9.5 Lbs.</p>	<p>Alternator Module</p> <p>Maximum 70A through current:</p> <p>Dimensions: 4.1" x 6.8" x 2.8"</p> <p>Weight: 2.0 Lbs.</p>
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Remote Indicators for Charge Pro™ PLUS



Remote indicator for use with Models 36082-12, 36082-24, 2607A and 2607A-B

- 15' cable included
- Easy installation - plugs right into Charge Pro™ Plus chargers

Item # 729749-P



Remote indicator for use with Models 36202-12 and 36202-24

- 15' cable included
- Easy installation - plugs right into Charge Pro™ Plus chargers

Item # 16002-RI

INTELLIGENT CHARGING SYSTEM

CHARGERS

Advanced Micro Technology for Maximum Performance

The Intelligent Charging System uses the latest microprocessor design and offers the most versatile, easy-to-use and reliable battery charging/monitoring system available. Now available with hi-performance AGM.

The ICS chargers are designed so user communication with the microprocessor happens at the touch-pad control center. Positioned at the top of the charger, the control center provides easy viewing of charge status, along with user selectable controls to tailor each charge output for specific battery types (AGM, Flooded, Gel, or hi-performance AGM).

Advanced microprocessor control for each output ensures that each battery onboard receives the precise charging profile to optimize available power and extend battery life. Tri-color LED displays provide easy viewing of charge status for each battery, plus warning indicators that alert boaters to small problems before they become large ones.

- Best charging output available
- Battery type selectable (Flooded, Gel, AGM or hi-performance AGM)
- Remote indicator ready
- Timer in second stage prevents overcharging of bad batteries
- Reduce recharge time by 20% compared to competitive models
- Water resistant for harsh environment performance



6 Amp Single Output

Item # 17061

Item # 16001-RI (remote indicator)

12V	Total Amps:	6
	Outputs:	1
	Amps per out:	6
	Battery System:	12V only
	Input Voltage:	95-135V AC/60Hz, 2.5A
	Output Voltage:	12V
	AC:	6' cord with ConnectCharge™ plug
	DC:	4' with ring terminals
	Dimensions:	2.4" x 4.9" x 7.0"
	Weight:	3.0 Lbs.



12 Amp Dual Output

Item # 17102

Item # 16002-RI (remote indicator)

12V	Total Amps:	12
	Outputs:	2
12V	Amps per out:	6/6
	Battery System:	12V+12V or 24V
or	Input Voltage:	95-135V AC/60Hz, 3.5A
24V	Output Voltage:	12V DC
	AC:	6' cord with ConnectCharge™ plug
	DC:	4' with ring terminals
	Dimensions:	3.0" x 7.1" x 6.6"
	Weight:	4.5 Lbs.



18 Amp Triple Output On-Board Battery Charger

Item # 17153

Item # 16003-RI (remote indicator)

- 12V** Total Amps: 18
- Outputs: 3
- 12V** Amps per out: 6/6/6
- Battery System: 12V+12V+12V or 12V+24V or 36V
- 12V** Input Voltage: 95-135V AC/60Hz, 4.5A
- or Output Voltage: 12V DC
- 12V** AC: 6' cord with ConnectCharge™ plug
- DC: 4' with ring terminals
- 24V** Dimensions: 3.0" x 7.1" x 9.8"
- or Weight: 6.0 Lbs.
- 36V**



20 Amp Dual Output On-Board Battery Charger

Item # 17202

Item # 16002-RI (remote indicator)

- 12V** Total Amps: 20
- Outputs: 2
- Amps per out: 10/10
- Battery System: 12V, 12V, 12V+12V or 24V
- Input Voltage: 95-135V AC, 50/60Hz, 5A
- Output Voltage: 12V DC
- AC: 6' cord with ConnectCharge™ plug
- DC: 4' with ring terminals
- Dimensions: 3.0" x 7.1" x 9.9"
- Weight: 6.75 Lbs.

ConnectCharge™ Inlets



Universal Mount

- Mount to dash from rear with threaded locking ring or from the front with three screws through the face plate

Item # 150CCI



Rear Mount

- Mounts to dash from rear with threaded locking ring
- Eliminates rewiring, plug snaps into Inlet locking tab
- Watertight lid protects AC plug

OEM # 150CCTM.OEM

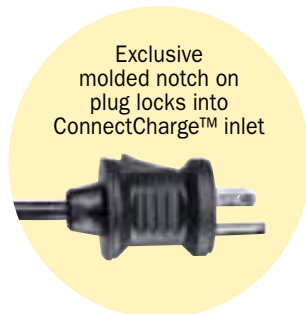


Front Mount

- Mounts to panel from front with three screws through the face plate

OEM # 150CC.OEM

For use with Guest Battery chargers with ConnectCharge™ Plug only!





6 Amp Single Output

Item # **2608A**
OEM # 2608A-B

- 12V** Total Amps: 6
- Outputs: 1
- Amps per out: 6
- Battery System: 12V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: 6' cord with ConnectCharge™ plug
- DC: 4' with ring terminals
- Dimensions: 3.50" x 6.40" x 2.25"
- Weight: 4.0 Lbs.



6 Amp Dual Output

Item # **2607A**
OEM # 2607A-B

- 12V** Total Amps: 6
- Outputs: 2
- 12V** Amps per out: 3/3
- Battery System: 12V+12V or 24V
- or
- 24V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: 6' cord with ConnectCharge™ plug
- DC: 4' with ring terminals
- Dimensions: 3.50" x 6.40" x 2.25"
- Weight: 4.0 Lbs.



10 Amp Dual Output

Item # **2610A**
OEM # 2610A-B

- 12V** Total Amps: 10
- Outputs: 2
- 12V** Amps per out: 5/5
- Battery System: 12V+12V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: Studs
- DC: Studs
- Dimensions: 5.50" x 7.75" x 2.42"
- Weight: 5.6 Lbs.



10 Amp Dual Output

Item # 2611A
OEM # 2611A-B

- 12V** Total Amps: 10
- Outputs: 2
- 12V** Amps per out: 5/5
- Battery System: 12V+12V or 24V
- Input Voltage: 100-130V AC/60Hz
- or
- 24V** Output Voltage: 12V
- AC: 6' cord with ConnectCharge™ plug
- DC: 4' with ring terminals
- Dimensions: 5.50" x 7.75" x 2.42"
- Weight: 5.6 Lbs.



15 Amp Triple Output

Item # 2613A

- 12V** Total Amps: 15
- Outputs: 3
- 12V** Amps per out: 5/5/5
- Battery System: 12V+12V+12V or 24V+12V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- or
- 12V** AC: 6' cord with ConnectCharge™ plug
- 12V** DC: 4'/4'/6' with ring terminals
- Dimensions: 7.0" x 9.60" x 2.60"
- 24V** Weight: 8.0 Lbs.



20 Amp Dual Output

Item # 2620A

- 12V** Total Amps: 20
- Outputs: 2
- 12V** Amps per out: 10/10
- Battery System: 12V+12V or 24V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- or
- 24V** AC: 6' cord with ConnectCharge plug
- DC: 6' with ring terminals
- Dimensions: 7.0" x 9.60" x 2.63"
- Weight: 8.0 Lbs.



25 Amp Triple Output

Item # 2623A

- 12V** Total Amps: 25
- Outputs: 3
- 12V** Amps per out: 10/5/10
- Battery System: 12V+12V+12V or 24V+12V
- 12V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- or
- 12V** AC: 6' cord with ConnectCharge™ plug
- 12V** DC: 6' with ring terminals
- Dimensions: 7.0" x 13.0" x 2.60"
- 24V** Weight: 13.0 Lbs.



30 Amp Triple Output

Item # 2631A

- 12V** Total Amps: 30
- Outputs: 3
- 12V** Amps per out: 10/10/10
- Battery System: 12V+12V+12V or 24V+12V or 36V
- 12V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- or
- 12V** AC: 6' cord with ConnectCharge™ plug
- 12V** DC: 6' with ring terminals
- Dimensions: 7.0" x 13.0" x 2.60"
- 24V** Weight: 13.0 Lbs.



35 Amp Four Output

OEM # 2635-B

- 12V** **12V** Total Amps: 35
- Outputs: 4
- 12V** **12V** Amps per out: 5/10/10/10
- Battery System: 12V+12V+12V+12V or 24V+12V+12V or 36V+12V
- or
- 24V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- 12V** **12V** AC: 6' cord with ConnectCharge™ plug
- or
- 12V** DC: 6' with ring terminals
- Dimensions: 6.5" x 16.10" x 2.50"
- 36V** **12V** Weight: 24.0 Lbs.



10 Amp Single Output

OEM # 2611A-1-B

12V	Total Amps:	10
	Outputs:	1
	Amps per out:	10
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' cord with ConnectCharge™ plug
	DC:	4' with ring terminals
	Dimensions:	5.50" x 7.75" x 2.42"
	Weight:	5.6 Lbs.



30 Amp Dual Output

OEM # 2722-B

12V	Total Amps:	30
	Outputs:	2
12V	Amps per out:	15/15
	Battery System:	12V+12V or 24V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	Studs
	DC:	6' with ring terminals
	Dimensions:	6.50" x 9.50" x 2.75"
	Weight:	12.0 Lbs.

Cruising Series

Guest Cruising Chargers are made specifically for a coastal, blue water environment where top quality, rugged equipment is required. They feature individual circuit boards, which provide each battery its own specific charging circuit. The benefit is a well-designed charging system that protects your battery investment. Guest Cruising Chargers also function as a continuous 12 Volt power supply to run your DC accessories while at the dock.

- Dedicated output per battery, each battery receives individual attention
- Provides different charging amperages as required by each battery



15 Amp Dual Output

Item # 2614A

12V	Total Amps:	15
	Outputs:	2
12V	Amps per out:	5/10
	Battery System:	12V+12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	Studs
	DC:	Studs
	Dimensions:	2.92" x 9.60" x 9.84"
	Weight:	10.8 Lbs.



20 Amp Dual Output

Item # 2622A

- 12V** Total Amps: 20
- Outputs: 2
- 12V** Amps per out: 10/10
- Battery System: 12V+12V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: Studs
- DC: Studs
- Dimensions: 2.92" x 9.60" x 9.84"
- Weight: 10.8 Lbs.



20 Amp Triple Output

Item # 2621A

- 12V** Total Amps: 20
- Outputs: 3
- 12V** Amps per out: 5/5/10
- Battery System: 12V+12V+12V
- 12V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: Studs
- DC: Studs
- Dimensions: 2.92" x 9.60" x 9.84"
- Weight: 10.8 Lbs.



30 Amp Triple Output

Item # 2632A

- 12V** Total Amps: 30
- Outputs: 3
- 12V** Amps per out: 5/5/20
- Battery System: 12V+12V+12V
- 12V** Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: Studs
- DC: Studs
- Dimensions: 2.92" x 12.96" x 9.84"
- Weight: 15.6 Lbs.



30 Amp Dual Output

Item # 2633A

- 12V** Total Amps: 30
- Outputs: 2
- 12V** Amps per out: 10/20
- Battery System: 12V+12V
- Input Voltage: 100-130V AC/60Hz
- Output Voltage: 12V
- AC: Studs
- DC: Studs
- Dimensions: 2.92" x 12.96" x 9.84"
- Weight: 15.6 Lbs.





.5 Amp Battery Maintainer

Item # 2602

12V	Total Amps:	0.5
	Outputs:	1
	Amps per out:	500mA/250mA
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' AC cord with standard plug
	DC:	4' with battery clips
	Dimensions:	1.50" x 3.0" x 2.0"
	Weight:	0.5 Lbs.



2 Amp Battery Charger

Item # 2602A-12

OEM # 2602A-12-B

12V	Total Amps:	2
	Outputs:	1
	Amps per out:	2
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' cord with ConnectCharge plug
	DC:	4' with ring terminals
	Dimensions:	2.75" x 4.50" x 1.50"
	Weight:	2.0 Lbs.



3 Amp Battery Charger

Item # 2603

OEM # 2603-B

12V	Total Amps:	3
	Outputs:	1
	Amps per out:	3
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' AC cord with standard plug
	DC:	4' with battery clips
	Dimensions:	3.10" x 3.50" x 2.34"
	Weight:	1.0 Lbs.



2 Amp Battery Charger

OEM # 2602A-24-B

24V	Total Amps:	2
	Outputs:	1
	Amps per out:	2
	Battery System:	24V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	24V
	AC:	6' AC cord with standard plug
	DC:	4' with battery clips
	Dimensions:	2.75" x 4.50" x 1.50"
	Weight:	2.0 Lbs.

PORTABLE & INTERNATIONAL CHARGERS

CHARGERS



6 Amp Battery Charger

Item # 2606A
OEM # 2606A-B

12V	Total Amps:	6
	Outputs:	1
	Amps per out:	6
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' cord with standard plug
	DC:	4' with battery clips
	Dimensions:	5.5" x 5.0" x 2.4"
	Weight:	3.5 Lbs.

10 Amp Battery Charger

Item # 2612A

12V	Total Amps:	10
	Outputs:	1
	Amps per out:	10
	Battery System:	12V
	Input Voltage:	100-130V AC/60Hz
	Output Voltage:	12V
	AC:	6' cord with standard plug
	DC:	4' with battery clips
	Dimensions:	7.5" x 5.0" x 2.4"
	Weight:	4.5 Lbs.

International Marine Battery Chargers

20 Amp Charger

Item # 2622A-230

Total Amps:	20
Outputs:	2
Amps per out:	10/10
Battery System:	12V+12V
Input Voltage:	230V AC 50/60Hz
Output Voltage:	12V
AC:	Studs
DC:	Studs
Dimensions:	2.92" x 9.60" x 9.84"
Weight:	10.8 Lbs.

30 Amp Charger

Item # 2632A-230

Total Amps:	30
Outputs:	3
Amps per out:	5/5/20
Battery System:	12V+12V+12V
Input Voltage:	230V AC 50/60Hz
Output Voltage:	12V
AC:	Studs
DC:	Studs
Dimensions:	2.92" x 12.96" x 9.84"
Weight:	15.6 Lbs.

30 Amp Charger

Item # 2633A-230

Total Amps:	30
Outputs:	2
Amps per out:	10/20
Battery System:	12V+12V
Input Voltage:	230V AC 50/60Hz
Output Voltage:	12V
AC:	Studs
DC:	Studs
Dimensions:	2.92" x 12.96" x 9.84"
Weight:	15.6 Lbs.

Universal Mount Switches

- Longer stud lengths for improved assembly and easier cable routing
- Built with heavy-duty copper sweep contacts to ensure positive circuit control
- Rugged internal components protected by a tough, impact resistant polycarbonate housing that is impervious to the elements

Battery Selector Switch

Continuous Amps: 230
 Momentary Amps: 345
 Cable Lug Size: 3/8"
 Dimensions: 5.0" x 2.75"

Selector Switch with AFD



Item # 2111A
 OEM # 2111A-B

On/Off Switch with AFD



Item # 2110A
 OEM # 2110A-B

On/Off Switch w/out AFD



Item # 2112A
 OEM # 2112A-B

Battery Selector Switches

- Polycarbonate case
- For 6, 12, 24 or 36V systems
- Surface mount

Cruiser Series Battery Selector Switches

Continuous Amps: 230
 Momentary Amps: 345
 Cable Lug Size: 3/8"
 Color: Red
 Dimensions: 5.50" x 2.63"

Selector Switch with AFD



Item # 2100
 OEM # 2100-B

Selector Switch w/out AFD



Item # 2101
 OEM # 2101-B

On/Off Switch w/out AFD



Item # 2102
 OEM # 2102-B
 OEM # 2102-3-B black

Heavy Duty Diesel Power Battery Switches

- For 6, 12, 24 or 36V systems
- Built with heavy-duty copper sweep contacts to ensure positive circuit control
- Rugged internal components protected by a tough, impact resistant polycarbonate housing that is impervious to the elements
- All feature Alternator Field Disconnect (AFD) allowing selection of any position, including "off", without damage to alternator or electrical system

* NOTE: OEM comes with old style black knob.

Heavy-duty On/Off Switch



Continuous Amps: 450
 Momentary Amps: 800
Item # 2303A
 OEM # 2303A-B *(black knob)

Extra-duty On/Off Switch



Continuous Amps: 600
 Momentary Amps: 1000
Item # 2304A
 OEM # 2304A-B *(black knob)

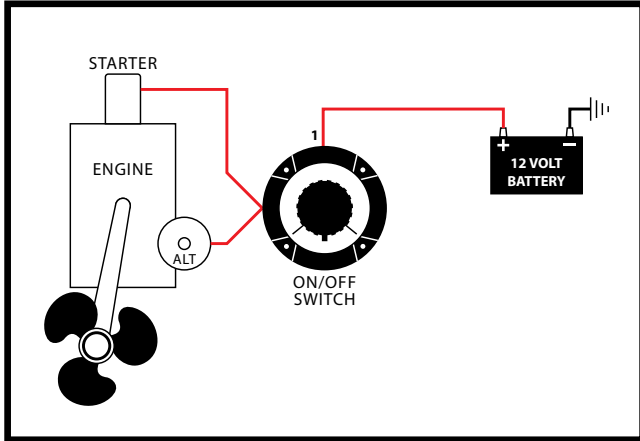
Battery Selector Switch



Continuous Amps: 360
 Momentary Amps: 600
Item # 2300A
 OEM # 2300A-B *(black knob)

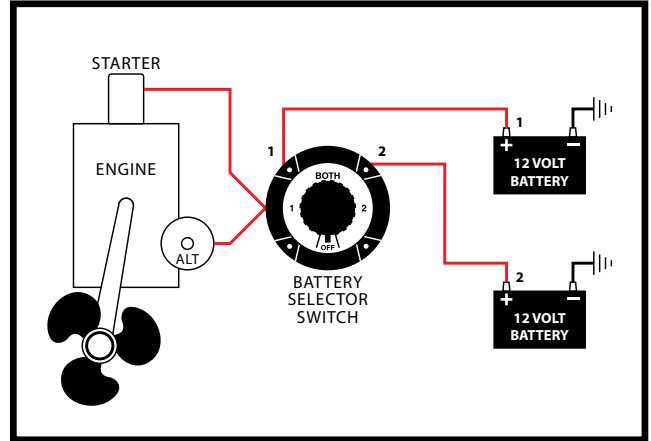
SYSTEM WIRING DIAGRAMS

As more and more electronics and electrical accessories are added to your boat (autopilot, refrigeration, etc.) the use of multi-batteries becomes a necessity. Guest components allow you to set up the system (from simple to complex) for your boat's application. The following diagrams are for use in identifying and designing the right system for your boating needs. Detailed installation schematics are available. Request Guest form I-21681.



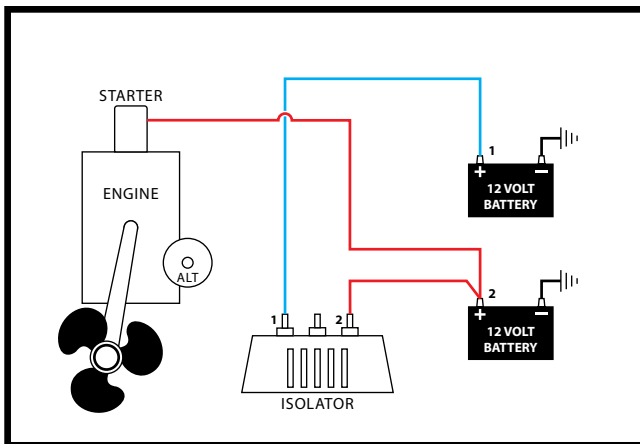
One Battery On/Off Master Disconnect

Installation: To shut off all power at source. Recommended installation by approved authorities.



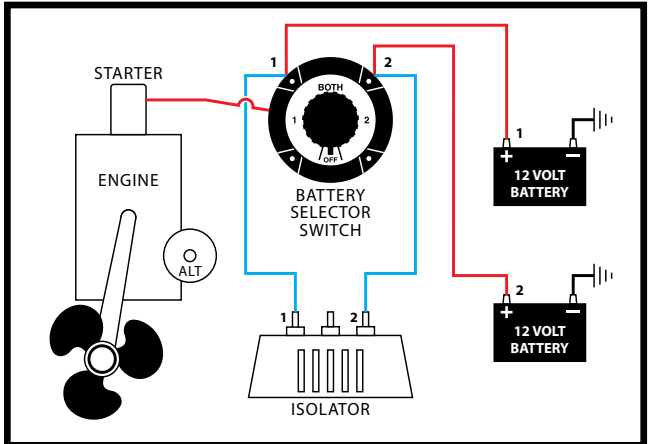
Two Batteries Battery Selector Switch and Master Disconnect

Installation: To select a starter battery and ship service battery. Manually isolates each battery, parallels both batteries for emergency start, master disconnect, manually selects batteries for charging.



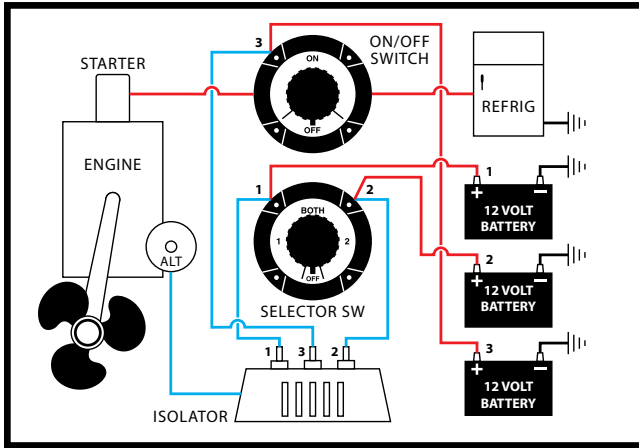
Two Batteries, One Isolator, One Alternator

Installation: Isolator automatically selects lower charged battery to be charged first. Full battery can't discharge to drained battery. Dedicated system, no flexibility, no emergency parallel or disconnect function.



Two Batteries, Battery Selector Switch and Master Disconnect with Automatic Battery Isolator and Automatic Charging

Installation: An isolator automatically isolates each battery, lower charged battery will automatically be charged first. Two different size batteries can be used, larger for ship services, smaller for engine cranking. Switch selects usage, master disconnect, emergency parallel function.

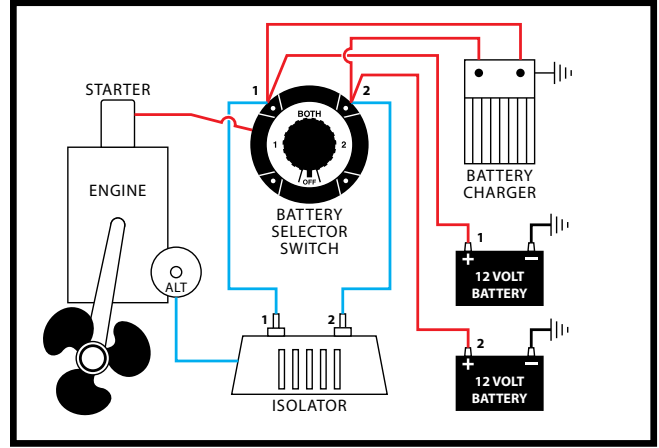


One Battery Selector Switch, One On/Off Selector Switch Automatic Battery Isolation and Automatically Charges Three Batteries

Installation: Use for sailboats and trawlers. Third battery isolated from other ship circuits. All batteries being automatically charged while running through isolator. To be used for refrigeration or other heavy load devices. Isolator protects other batteries.

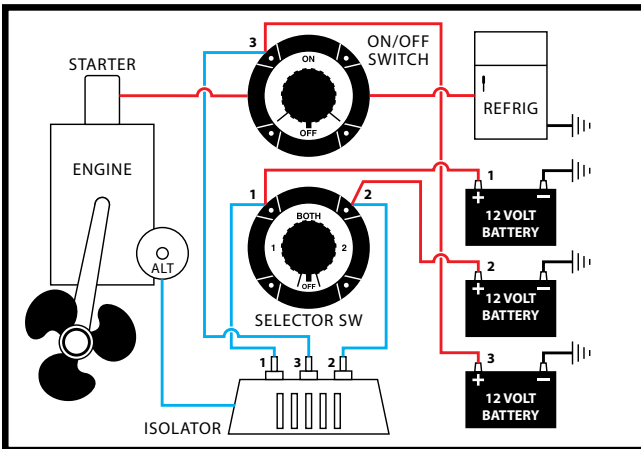
Switch selector usage:

1. Master disconnect
2. Emergency parallel function



Adding Automatic Battery Charger/Converters to System

Installation: At dockside multi-bank charger built in isolator which will automatically charge lower battery.



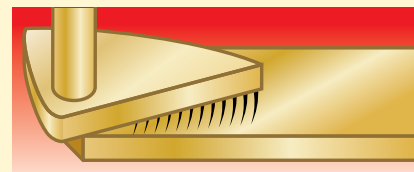
Three Batteries, One Battery Selector Switch, One On/Off or Selector Switch, Two Alternators, One Isolator

Installation: Isolator separates both alternators so both alternators will charge simultaneously. Automatically charges lowest battery first. All batteries can be used for start, third battery, ship's source.

Alternator Field Disconnect (AFD)

Allows selection of any position, including "Off," without damage to alternator or electrical system. AFD is required on some electrical systems.

- Heavy-duty copper sweep contacts
- Positive click-stop on all positions
- "Make before break" contacts allow selection of all positions except "Off" while engine is running
- New design is easy to retrofit into existing hole patterns
- Use with 6, 12, 24 or 36V systems
- Built-in skirt protects connections
- Surface or rear panel mounting
- Marine grade construction



Exclusive flat 360 "sweep" contact design provides up to 60% more contact area than other switch designs.

Important Note: The boater's electrical needs and problems should be discussed with your boatyard's electrical technician.

BATTERY ISOLATORS

- Optimized heat sink design for maximum performance
 - Minimized voltage drop across isolation barrier using Schottky type diodes
 - Each output individually capable of carrying the full alternator load
 - Fixed cable posts for secure connections
 - Fully potted, marine grade construction
 - Waterproof components for harsh environment performance - year after year
- NOTE: If used on a 24V system, boat must be equipped with 24VDC alternator**

2 YEAR WARRANTY

70 Amp Battery Isolators



Item # 2501
 Usage: 1 Alternator / 2 Batteries
 Max. Output per Alternator: 70 Amps
 Operation: 12V to 48V
 Dimensions: 5.4" x 4.5" x 2.6"



Item # 2502
 Usage: 2 Alternators / 2 Batteries
 Max. Output per Alternator: 70 Amps
 Operation: 12V to 48V
 Dimensions: 10.0" x 5.5" x 3.7"

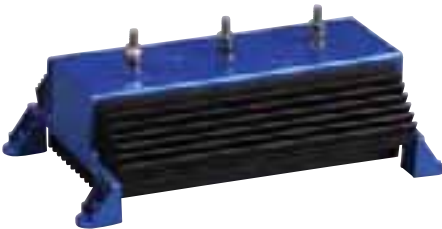


Item # 2504
 Usage: 1 Alternator / 3 Batteries
 Max. Output per Alternator: 70 Amps
 Operation: 12V to 48V
 Dimensions: 5.4" x 4.5" x 2.6"

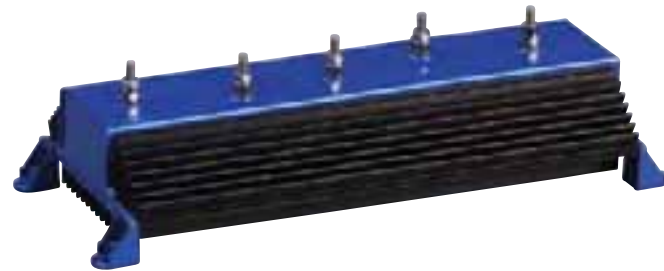


Item # 2503
 Usage: 2 Alternators / 3 Batteries
 Max. Output per Alternator: 70 Amps
 Operation: 12V to 48V
 Dimensions: 10.0" x 5.5" x 3.7"

120 Amp Battery Isolators



Item # 2530
 Usage: 1 Alternator / 2 Batteries
 Max. Output per Alternator: 120 Amps
 Operation: 12V to 48V
 Dimensions: 10.0" x 5.5" x 3.7"



Item # 2532
 Usage: 2 Alternators / 3 Batteries
 Max. Output per Alternator: 120 Amps
 Operation: 12V to 48V
 Dimensions: 15.0" x 5.5" x 3.7"

Fail-Safe Galvanic Isolators

- Gold plated terminals provide superior corrosion resistance for harsh environment exposure
- Prevent galvanic corrosion due to dissimilar metals between boats
- Block DC current from flowing through shore power cable
- Ignition Protected



30A Galvanic Isolator
Item # 4531001

Voltage Rating: 115/230VAC
 Frequency Rating: 50/60Hz
 Current Rating: 30A at 50°C
 Operating Temp: -20 to 50°C



50/60A Galvanic Isolator
Item # 4531011

Voltage Rating: 115/230VAC
 Frequency Rating: 50/60Hz
 Current Rating: 50/60A at 50°C
 Operating Temp: -20 to 50°C

Dynaplates for Hull Bonding & Grounding

- Improves performance of electronics and reduces RF interference
- Offers the best path for hull bonding without long runs of copper foil
- Provides a direct, low resistance path for improved lightning protection
- Deters electrolysis and galvanic corrosion
- Sintered porous bronze sphere construction for maximum conductivity in a compact size
- Low drag, non-fouling shape
- Easy to clean with wire brush
- Conforms to ABYC standards
- Mounting hardware included
- Gold plated mounting bolt
- Bronze mounting bolts
- Copper washers



Standard Dynaplate
Item # 4006

For bonding and grounding
 Dimensions: 6.0" x 2.0" x 0.50"
 Mounting holes: 2- 1/2" center to center
 Weight: 3.0 Lbs.



Large Dynaplate
Item # 4008

For bonding, grounding and Loran use
 Dimensions: 8.0" x 2.50" x 0.50"
 Mounting holes: 4" center to center
 Weight: 5.0 Lbs.



Super Dynaplate
Item # 4018

Use with SSB radio
 Dimensions: 18.0" x 6.0" x .50"
 Mounting holes: 9.875" center to center 3.0" top to bottom
 Weight: 13.0 Lbs.



Giant Dynaplate
Item # 4012

For bonding, grounding and Loran use
 Dimensions: 12.0" x 3.0" x .50"
 Mounting holes: 6" center to center
 Weight: 7.0 Lbs.

BEAMER™ REMOTE CONTROL HALOGEN SPOT

SPOTLIGHTS

- Illuminates objects up to a mile away
- Marine grade construction
- One year warranty
- Light can be directed manually without damaging motors

Amp Draw: 8 Amps, up to 10 on start
Operation: 12V Halogen
Bulb: Replaceable 100 watt Halogen bulb
Overall Dimensions: 10.375" H x 7.375" W x 9.25" D
Base Dimensions: 5.75" W x 6.25" D
Weight: 3.75 Lbs.



Spot with Push Button Control

Item # 502A

Spot with Joystick Control

Item # 502-1

Spot with Wireless Remote

- Wireless transmitter controls spotlight functions
- Remote control works up to 150 ft. away
- Easy to install
- Security code on remote unit prevents unauthorized use
- Wireless secondary station may be added, see page 100

Item # 501A

Spot with Single Wire Remote

- Designed for mounting in locations where wiring may be difficult
- Install with common 22 gauge wire
- Small gauge control line easy to snake through bow rails
- Console control mounts on the surface with 1/4" wiring outlet

Item # 500A

24V Spot with Joystick

- 15 ft. wiring harness included
- Smaller diameter wiring harness is easy to install
- Secondary station may be added, see page 100
- Console control mounts on the surface with 1/4" wiring outlet
- Joystick control requires 1.625" H x 2.75" L cutout

Item # 502-2

Replacement Bulb

- 12V, 100 Watt Halogen

Item # 729493



BEAMER™ REMOTE CONTROL HALOGEN SPOT/FLOOD

- Illuminates objects up to a mile away
- Marine grade construction
- One-year warranty
- Light can be directed manually without damaging motors
- 100 watt spotlight with 55 watt floodlight
- Includes 15 ft. wiring harness

Amp Draw: 8 Amps, up to 10 on start
Operation: 12V Halogen
Bulb: Replaceable Halogen bulb
Overall Dimensions: 10.375" H x 7.375" W x 9.25" D
Base Dimensions: 5.75" W x 6.25" D
Weight: 3.75 Lbs.



Spot/Flood with Push Button Control

- Secondary station may be added, see page 100
- Console control mounts on the surface with 1/4" wiring outlet

Item # 503A

Spot/Flood with Joystick Control

- Secondary station may be added, see page 100
- Joystick control requires 1.625" H x 2.75" L cutout

Item # 503-1

24V Spot/Flood with Joystick

- Secondary station may be added, see page 100
- Joystick control requires 1.625" H x 2.75" L cutout

Item # 503-2

12V Xenon Spot with Wireless Remote

- Twice as bright as Halogen spotlights
- Wireless remote control - works from 100 feet away
- Built-in RF receiver - no extra pieces to maintain or install
- Waterproof bullet connectors for ease of installation
- Fortified "neck" bracing to resist damage due to side impact

Item # 505

Replacement Bulb

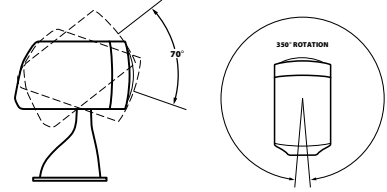
- 12V, Halogen

Item # 729494

STAINLESS STEEL SPOT/FLOODS

SPOTLIGHTS

- Remote control, joystick operation
- 316 stainless steel base, 304 stainless steel head
- One year warranty
- Dual station option available
- Light can be directed manually without damaging motors



Spot kit includes joystick control and 15' wiring cable with easy to install plug ends

5" Spot/Flood Kit

Item # 22040A

Spot Power: 72,000 CP
Flood Power: 30,000 CP
Amp Draw: 7 Amps
Operation: 12V Incandescent
Bulb: Replaceable Incandescent
Lamp Dimensions: 9.5" H x 4.5" W x 7.5" L
Base Dimensions: 5.5" L x 3.5" W
Weight: 6 Lbs.
Joystick requires: 2.75" installation hole

5" Spot/Flood Only

Item # 22041A

Replacement Bulb

- 12V Incandescent

Item # 22014-P



Spot kit includes joystick control and 15' wiring cable with easy to install plug ends

6" Spot/Flood Kit

Item # 22044

Spot Power: 200,000 CP
Flood Power: 50,000 CP
Amp Draw: 10 Amps
Operation: 12V Incandescent
Bulb: Replaceable Incandescent
Lamp Dimensions: 11" H x 6" W x 9" L
Base Dimensions: 5.5" L x 3.5" W
Weight: 9 Lbs.
Joystick requires: 2.75" installation hole

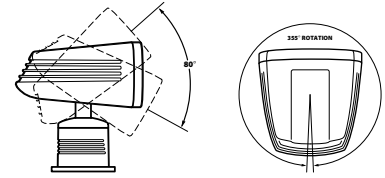
Replacement Bulb

- 12V Incandescent

Item # P-14302

M-100 HALOGEN SPOT & DECK LAMPS

- Corrosion-proof, impact resistant UV stabilized ABS
- One year warranty
- Remote operation with joy stick control
- Light can be directed manually without damaging motors
- Easy to retrofit, same footprint and wiring harness as our 22040A spotlight.



Halogen Spot Kit

Item # 22200

Spot Power:	100,000 CP
Amp Draw:	4 Amps
Operation:	12V Halogen
Bulb:	Replaceable sealed beam
Lamp Dimensions:	9.1875" H x 8.625" W x 8.6875" L
Base Dimensions:	5" diameter
Weight:	4.25 Lbs.
Joystick requires:	1.625" H x 2.75" L cutout

Halogen Spot Only

Item # 22201

Replacement Bulb

- 12V Halogen

Item # 22230-P



Universal Halogen Deck Lamps

State-of-the-art free form lens reflector technology allows for 30% more light output than comparable 55W lamps. Universal mounting brackets and compact size make for easy installation anywhere. Lamp housing is made of UV stabilized plastic and all hardware is 316 chrome plated stainless steel. Includes 12V, 55W halogen bulb and is 24V, 70W compatible.

Bulbs:	Replaceable H3 12V 55W/H3 24V 70W
Dimensions:	3.75" H x 3.375" W x 5.5" L
Mounting Height:	4" with bracket

Item # ML-005BW-STC Black

Item # ML-005WW-STC White



Flush Mount Deck Lamp

In addition to our highly popular conventional halogen deck lamps, we now offer a flush mount version. Ideally suited for fiberglass hardtop installations and allows for a very clean and finished installation. Free Form lens reflector technology guarantees maximum output. Lamp is completely waterproof and constructed of impact resistant UV stable plastic. Comes complete with 12V 55W halogen H3 bulb. Also suitable for 24V 70W bulbs.

Bulbs:	Replaceable H3 12V 55W/H3 24V 70W
Dimensions:	3.375" H x 1.5" W x 5.625" L
Cutout:	3" hole

Item # ML-005NWW

SPOTLIGHT ACCESSORIES

SPOTLIGHTS

Beamer™ Parts and Accessories

Model Number	Control Panel	Dual Station Control Kit	Replacement Bulb Kit	Extension Cable Kit	Wires in Cable
500, 500A	729823-P	729823-P	729493	n/a	1
501, 501A	729825	729825	729493	n/a	Wireless
502, 502A	729827-P	729828-P	729493	729528	5
502-1	U-3605	729488	729493	729528	5
502-2	729489	729489	729493	729528	5
503, 503A	729829-P	729830-P	729494	729528	6
503-1	U-3606	729491	729494	729528	6
503-2	22208-24	729492	729494	729528	6

Stainless Steel Spot/Flood Parts and Accessories

Model Number	Oval Panel	Rectangular Control	Dual Station Control Kit	Replacement Bulb Kit
22040A	22240	22208A	22218A	22014-P
22041A	22240	22208A	22218A	22014-P
22044	22240	22208A	22218A	P-14302
22045	22240	22208A	22218A	P-14302

M-100 Remote Halogen Spot Parts and Accessories

Model Number	Joystick Control	Dual Station Control Kit	Replacement Bulb Kit
22200	22209	22219A	22230-P
22201	22209	22219A	22230-P

Extension Cables

Length	Male to Male	Male to Female
25 Ft.	22011A-P	22011MA-P
35 Ft.	22012A-P	22012MA-P

Use with: 22040A, 22041A, 22044, 22045, 22200 or 22201 Lights



Wiper Motors

The motor choice is based primarily on the size of the windshield and where the motor is to be installed, either in an exterior or interior location. AFI™ motors are split into three categories, Standard, Heavy-Duty, and Heavy-Duty Plus, with the categories being defined by the power range of the motors in those categories. Within the three categories, there are motors designed for interior or protected installations, and motors designed for exterior installations. With the addition of the AFI™ 3.0 motor, AFI offers wiper motors for all windshield sizes up to 45", which could be covered by a 30" arm and 30" blade combination, driven by an AFI™ 3.0 motor.









The Standard motor category includes the STD, WMW, and AFI™ 500, which are all designed for light duty use, defined as being able to drive a 14" arm and a 14" blade. The differences in the motors relate to their casings and the appropriate installation applications. The STD is designed to be used in interior or well protected locations. The WMW, with its chrome-plated brass outer housing, provides protection for exterior installations that have some protection. The AFI™ 500 motor, with its thermoplastic, watertight housing, is ideal for any light-duty, external installation where the motor is constantly exposed to the elements.

When coverage of a larger windshield is required, AFI offers the Heavy-Duty motors, which are capable of driving a wide range of arm and blade sizes, up to a 26" x 26" Deluxe arm and blade combination, which would cover windshields up to 39" (the AFI™

2.5 motor). The MRV is built for interior or well-protected locations, and has the power to pull a 22" X 22" Deluxe arm and blade combination. It has two speeds, with adjustable sweep set and adjustable parking. The AFI™ 1000 motor can pull up to a 16" x 16" Deluxe arm and blade combination. While not as powerful as the MRV, it is waterproof, with the high-density thermoplastic housing offering complete protection from the elements. The AFI™ 1000 motor is a one-speed motor, with adjustable park and adjustable sweep settings. The third motor in this category, the AFI™ 1.5 motor, is new to the product line, and has the power to pull a 22" x 22" Deluxe arm and blade combination like the MRV, but is waterproof and built for exposed installations. The AFI™ 1.5 motor has a powder-coated aluminum base and housing for greater operating efficiency and durability, with two-speed operation, and adjustable park and sweep sets. The fourth motor, also new to the line and mentioned above, is the AFI™ 2.5 motor, which replaces the AFI™ 2000 motor. It has the same features as the AFI™ 1.5 motor (waterproof, powder-coated aluminum housing, etc.), with the added power to drive a longer (26") Deluxe arm and blade combination.

The AFI™ 3.0 motor is the new motor that makes up the Heavy-Duty Plus category. A wiper motor for internal installations, the AFI™ 3.0 motor has an external linkage shaft drive that gives it the power and torque to drive a 30" Premier pantographic arm and Premier blade combination. See the following catalog pages for a full set of specifications on this, and all of the other wiper motors.

Choosing the Right Motor

	Model	Voltage	Speeds	Stall Torque/ Stall Current	Compatible Blade Lengths	Available Shaft Lengths	Sweep Angles	Housing
	3.0	12 & 24	single	165 in-lbs 12.5 - 14.5 Amps	30" Premier Plus single or pantographic	2.5" 3.5"	Factory preset to 110° adjustable to 45°, 60°	external linkage - no housing
	2.5	12 & 24	2 speed	139 in-lbs 9 - 10.5 Amps	26" Deluxe 24" Premier	1.5" 2.5"	Factory preset: 80° or 110° Adjustable: 45° or 60°	fully sealed powder coated aluminum
	1.5	12 & 24	2 speed	109 in-lbs 11.5 - 13 Amps	22" Deluxe 20" Premier	1.5" 2.5" 3.5"	Factory preset: 80° or 110° Adjustable: 45° or 60°	fully sealed powder coated aluminum
	1000	12 V	single	55 in-lbs 9.8 - 10 Amps	16" Deluxe 18" Premier	1.5" 2.5"	Factory preset: 80° or 110° Adjustable: 50°, 65°, 80° or 110°	fully sealed, UV stabilized hi-temp thermoplastic
	MRV	12 V	2 speed but can be operated as 1	109 in-lbs 11.5 - 13 Amps	22" Deluxe 20" Premier (at 80° sweep)	1.5" 2.5" 3.5"	Factory preset: 80° or 110° Adjustable: 45°, 60°, 80°, or 110°	Corrosion resistant cast housing
	500	12 V	single	—	14" Deluxe	2.5"	Factory preset: 80° or 110°	fully sealed, UV stabilized hi-temp thermoplastic
	WMW	12 V	single	—	14" Deluxe	2.5"	Factory preset: 110°	chrome plated brass case
	STD	12 V	single	—	14" Deluxe	2.5" 3.5"	Factory preset: 80° or 110° Adjustable: 80° or 110°	corrosion proof aluminum alloy case



3 YEAR WARRANTY

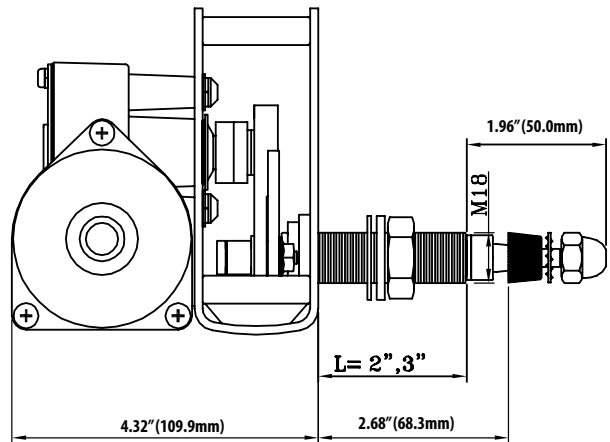
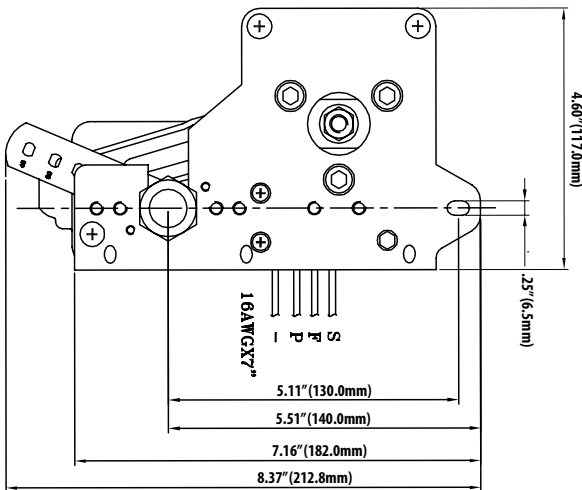


Heavy Duty Plus AFI™ 3.0 Motor

The new Heavy Duty Plus 3.0 Motor is AFI's only external linkage motor. This new design easily powers a 30" Premier arm and 30" Premier blade combination to provide coverage up to 45" of windshield area.

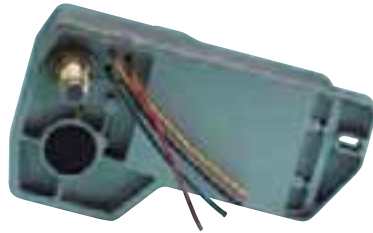
- Available in two shaft lengths: 2" and 3" (knurled arm fitting adds 2" to overall length)
- Tapered knurled drive shaft
- Factory pre-set sweep angle of 110°, with easy adjustment to 45° or 60°
- Sealed 6" wire leads, 16 AWG
- For interior installations
- Adjustable right or left self parking
- 18 mm diameter shaft
- Measures approximately 8.5" L x 4.625" W x 4.375" D (See below for detailed dimensional drawings)
- Stall torque: 165 in-lbs (190 kgf/cm; 18.6 Nm)
- Stall current: 12.5 - 14.5 amps
- No load current: 0.8 - 2.0 amps
- Recommended fuse: 6 amp fuse
- Available in 12V and 24V models
- Coast to park
- RF shielded circuitry

	Voltage	Sweep	OEM #
2.5" Shaft	12 V	110°	73112
	24 V	110°	73312
3.5" Shaft	12 V	110°	73113
	24 V	110°	73313





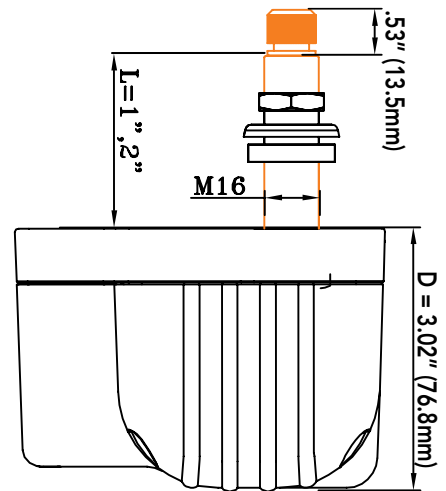
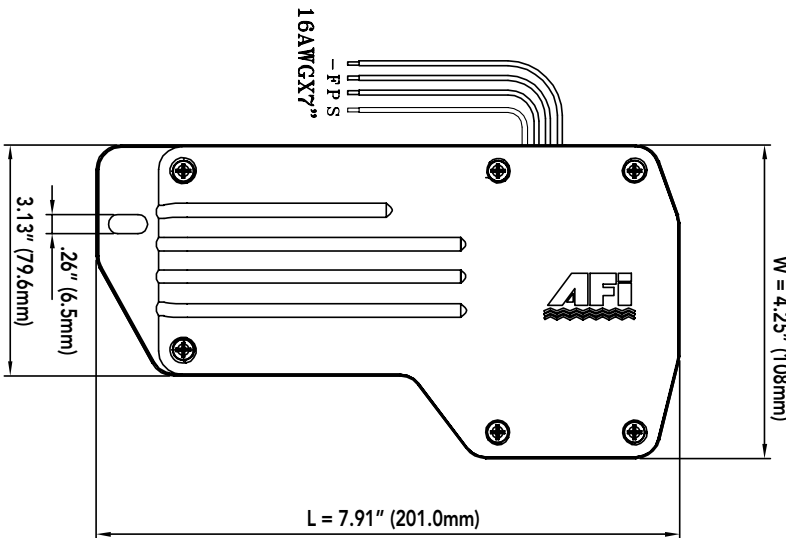
3 YEAR WARRANTY



AFI™ 2.5 Waterproof Wiper Motor

- Fully sealed powder coated aluminum waterproof base and housing
- Powers a 26" Deluxe arm and Deluxe blade combination or a 24" Premier arm and Premier blade combination
- Available in two shaft lengths: 1.5" and 2.5" (includes .5" length of knurled arm fitting)
- Factory pre-set sweep angles of 80° or 110°, with easy adjustment to 45° or 60°
- Chrome plated solid brass knurled drive nut with brass and stainless steel drive shaft
- Two speed motor
- Sealed 6" wire leads, 16 AWG
- Adjustable right or left self parking
- .625" diameter shaft (16 mm)
- Available in 12V and 24V models
- Coast to park
- RF shielded circuitry
- Includes 6 amp fuse and holder (operating switch not included)
- Measures approximately 7.875" L x 4.25" W x 3" D (see below for detailed dimensional drawings)
- Stall torque: 139 in-lbs (160 kgf/cm; 15.7 Nm)
- Stall current: 9.0 - 10.5 amps
- No load current: 1.0 -1.6 amps

	Voltage	Sweep	Item #	OEM #
1.5" Shaft	12 V	80°	82081	82181
	12 V	110°	82011	—
2.5" Shaft	12 V	80°	82082	82182
	12 V	110°	82012	82112
	24 V	110°	82312	82212





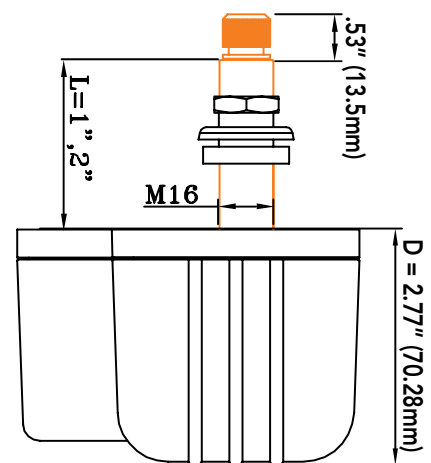
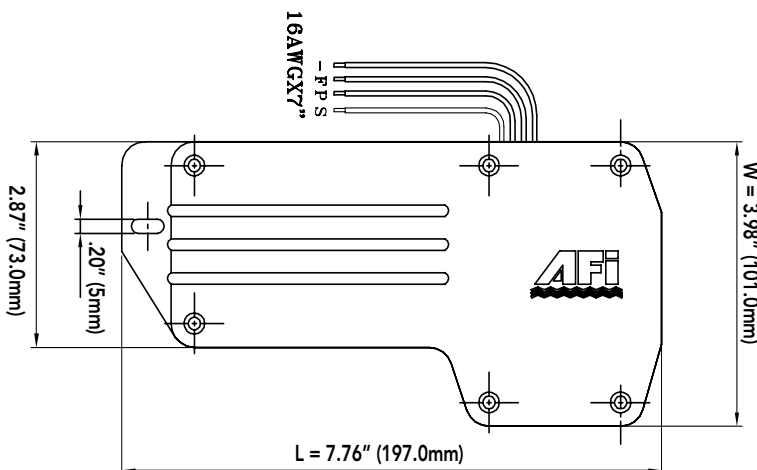
3 YEAR WARRANTY



AFI™ 1.5 Waterproof Wiper Motor

- Fully sealed powder coated aluminum waterproof base and housing
- Powers a 22" Deluxe arm and 22" Deluxe blade combination or a 20" Premier arm and 20" Premier blade combination
- Available in three shaft lengths: 1.5", 2.5" and 3.5" (includes .5" length of knurled arm fitting)
- Factory pre-set sweep angles of 80° or 110°, with easy adjustment to 45° or 60°
- Chrome plated solid brass knurled drive nut with brass and stainless steel drive shaft
- Two speed motor
- Sealed 6" wire leads, 16 AWG
- Adjustable right or left self parking
- .625" diameter shaft (16 mm)
- Available in 12V and 24V models
- Coast to park
- RF shielded circuitry
- Includes 5 amp fuse and holder (operating switch not included)
- Measures approximately 7.75" L x 4" W x 2.75" D (see below for detailed dimensional drawings)
- Stall torque: 109 in-lbs (125 kgf/cm; 12.3 Nm)
- Stall current: 11.5 - 13.0 amps
- No load current: 0.5 - 1.2 amps
- Replaces AFI 2000 motor

	Voltage	Sweep	Item #	OEM #
1.5" Shaft	12 V	80°	71081	71181
	12 V	110°	71011	71111M
2.5" Shaft	12 V	80°	71082	71182
	12 V	110°	71012	71112
	24 V	110°	71212	71312
3.5" Shaft	12 V	110°	—	71113





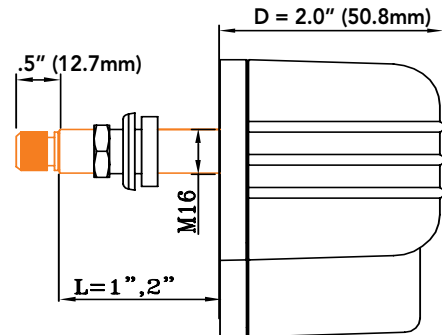
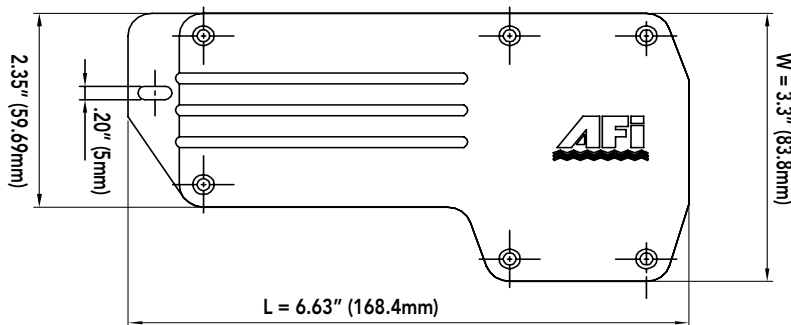
3 YEAR WARRANTY



AFI™ 1000 Waterproof Wiper Motor

- Powers 18" Deluxe arm and 18" Deluxe blade combination at sweep sets of 80° or less
- Powers 16" Deluxe arm and 16" Deluxe blade combinations at a sweep set of 110°
- Factory pre-set sweep of 80° or 110° adjustable to 50°, 65°, 80°, or 110°
- .625" diameter shaft (16 mm)
- Fully sealed waterproof housing made of UV stabilized, high-temperature, high-impact thermoplastic
- 12 volt heavy-duty motor with anti-rotation drive shaft
- Knurled drive shaft and solid brass arm drive nut
- Coast to park with adjustable right or left self parking
- Includes 5 amp fuse and holder (on/off switch not included)
- RF shielded circuitry
- Weight: 1.75 lbs
- Available in two shaft lengths: 1.5" and 2.5" (includes .5" length of knurled arm fitting)
- Measures approximately 6.625" L x 3.375"W x 2" D
- Stall torque: 55 in-lbs (63 kgf/cm; 6.2 Nm)
- Stall current: 9.8 - 10.0 amps
- No load current: 0.8 - 1.2 amps

	Voltage	Sweep	Item#	OEM #
1.5" Shaft	12 V	80°	36180	36181
		110°	36110	36111
2.5" Shaft	12 V	80°	37180	37181
		110°	37110	37111





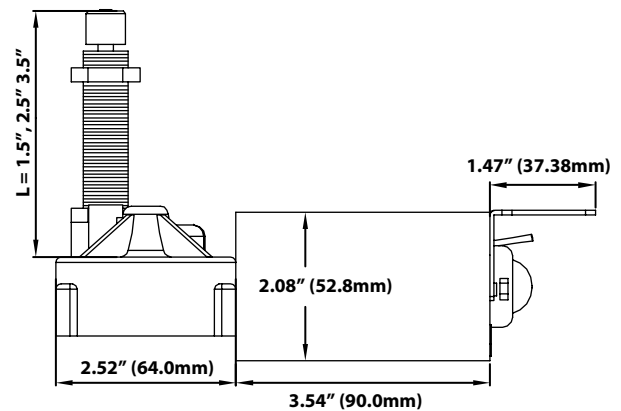
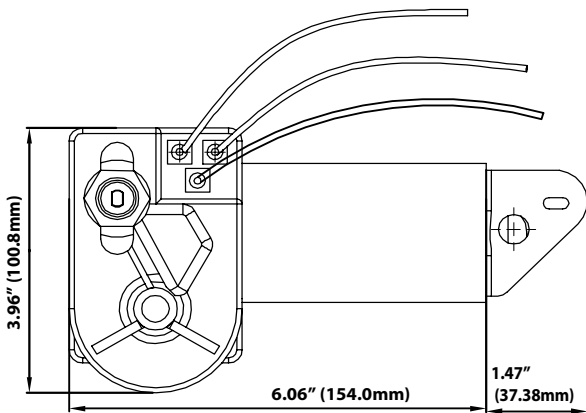
3 YEAR WARRANTY



MRV Wiper Motor

- Easily powers 22" x 22" deluxe arm/blade combinations, or a 20" x 20" premier arm/blade combination at sweep sets of 80° or less
- Factory pre-set sweep of 80° or 110° adjustable to 45°, 60°, 80° or 110°
- .625" diameter shaft (16 mm)
- Available in 3 shaft lengths: 1.5", 2.5" and 3.5" (includes .5" length of knurled arm fitting)
- Corrosion-resistant casing
- Heavy-duty motor with right angle drive
- Two-speed motor, can be operated as one speed
- Solid brass knurled drive nut with brass and stainless steel drive shaft
- Adjustable right or left self parking, coast to park
- Includes 5 amp fuse and holder
- Stainless steel fasteners and mounting bracket
- Use with three-position switch (not included)
- Compact size - 7.625" L x 4" W x 2" D
- Stall torque: 109 in-lbs (125 kgf/cm: 12.3 Nm)
- Stall current: 11.5 - 13.0 amps
- No load current: 0.5 - 1.2 amps

	Voltage	Sweep	Item#	OEM #
1.5" Shaft	12 V	80°	34001	38001
		110°	34011	38011
2.5" Shaft	12 V	80°	34000	38000
		110°	34010	38010
		24 V	110°	34210
3.5" Shaft	12 V	80°	34005	38005
		110°	34015	n/a



MRV Wiper Motor Cover

- Constructed of white ABS plastic
- Easily installed

Item # **33025**

OEM # 33125



3 YEAR WARRANTY

WMW Wiper Motor

Windshield Mount: .5" Shaft diameter

- Powers up to 14" x 14" arm/blade combinations
- Water-resistant sealed motor
- Chrome-plated brass case and shaft housing
- Stainless steel front plate and wiper shaft
- Maximum current draw: 2 amps
- Shaft diameter: .375"
- For external use in open cabin boats
- Dimensions: 4.25" L x 2.75" W x 3.5" D

	Voltage	Sweep	OEM #
2.5" Shaft	12 V	110°	35010

WMW Wiper Kit

Windshield Mount: .375" shaft diameter

- AFIT™ WMW Wiper Motor with 11.5" Deluxe stainless steel curved blade (33004) and Deluxe adjustable (6.75" to 10.5") stainless steel arm (33006AS)

	Voltage	Sweep	Item #
Kit	12 V	80°	30000
		110°	30002



3 YEAR WARRANTY

STD Wiper Motor

- Powers up to 14" x 14" arm/blade combinations
- Corrosion-proof aluminum alloy case with black crackle finish
- Base & mounting plates are chrome plated naval brass
- Maximum current draw: 2 amps
- 80° or 110° adjustable sweep, adjustable right or left self-parking
- Shaft diameter: .375" windshield mount, .5" deck mount
- Dimensions: 3.875" L x 2.25" W x 3.5" D

	Voltage	Sweep	OEM #
2.5" Shaft	12 V	80°	35040
3.5" Shaft	12 V	80°	35050



3 YEAR WARRANTY

Recommended for interior installations only

Standard Wiper Kit

Windshield Mount: .375" shaft diameter

Deck Mount: .5" shaft diameter

- AFIT™ STD Wiper Motor with 11.5" Deluxe stainless steel curved blade (33004) and Deluxe adjustable (6.75" to 10.5") stainless steel arm (33006AS)
- Deck Mount version includes deck mount adapter kit (33000)

	Voltage	Sweep	Item #
Kit - 2.5" Shaft	12 V	80°	32000
		110°	32002
Kit - 3.5" Shaft	12 V	80°	32001



3 YEAR WARRANTY

WIPER MOTORS & WIPER ARMS



3 YEAR WARRANTY

AFI™ 500 Wiper Kit

Windshield Mount: .5" shaft diameter

AFI™ 500 Waterproof Wiper Motor with 11.5" Deluxe stainless steel curved blade (33004) and Deluxe adjustable (6.75" to 10.5") stainless steel arm (33006AS)

	Voltage	Sweep	Item #
Kit	12 V	80°	30004
		110°	30005

Wiper Arms

Wiper arms are available in Standard, Deluxe, and Premier styles and the primary construction material in all AFI™ wiper arms is stainless steel. Standard arms are used with Standard blades and can only be used with the line of Standard motors, while the Deluxe arms are used on Standard and Heavy-Duty motors. When choosing arms (and blades) it is very important to use only the recommended lengths for the motor that you are using.

The arms are available in a wide range of sizes, in both black and stainless steel finish, and regular and pantographic models. Pantographic arms use a set of two arms joined together to give a flatter and somewhat wider sweep pattern. The Deluxe arms are offered in either with a polished stainless steel finish or a black powder-coated finish. Premier arms are the top of the line product in this category, utilizing heavy-duty stainless steel tubing and components, and they can only be used with the Heavy Duty and Heavy Duty Plus motors. Premier arms come in adjustable length sizes, ranging from 10" to 30", in both regular and pantographic versions. The longer length Premier arms (25" – 30" long) have been designed for added strength and have a tapered wiper shaft fitting made especially to fit the larger, more powerful AFI™ 3.0 wiper motor. These arms also have a saddle style tip for a stronger connection with the longer length Premier blades (26", 28", and 30" lengths).

Premier arms are also available as "wet arm" versions, with the water hose and sprayer nozzle built into the wiper arm. All that is needed is a water delivery system that the arm can be tied into. For those wanting a windshield washer system for the Deluxe arms, there is a complete washer kit system that is made especially to fit the Deluxe arms.



Wiper Arm Compatibility Chart

Style	Wet/ Dry	Length (adjustable)	Color	Material	Item #	OEM #	Motor Compatibility Chart					
							3.0	2.5	1.5	1000	MRV	
Premier Plus												
single	dry	25" - 30"	stainless	stainless	33088	33188	✓	-	-	-	-	-
pantographic	dry	26" - 30"	stainless	stainless	33096	33196	✓	-	-	-	-	-
single	wet	25" - 30"	stainless	stainless	33088W	33188W	✓	-	-	-	-	-
pantographic	wet	26" - 30"	stainless	stainless	33096W	33196W	✓	-	-	-	-	-
Premier												
single	dry	10" - 15"	stainless	stainless	33082	33182	-	✓	✓	-	-	✓
single	dry	15" - 20"	stainless	stainless	33084	33184	-	✓	✓	-	-	✓
single	dry	20" - 25"	stainless	stainless	33086	33186	-	✓	-	-	-	-
single	wet	15" - 20"	stainless	stainless	33084W	33184W	-	✓	✓	-	-	✓
single	wet	20" - 25"	stainless	stainless	33086W	33186W	-	✓	-	-	-	-
pantographic	dry	12" - 17"	stainless	stainless	33090	33190	-	✓	✓	-	-	✓
pantographic	dry	17" - 22"	stainless	stainless	33092	33192	-	✓	-	-	-	max 20"
pantographic	dry	22" - 26"	stainless	stainless	33094	33194	-	-	-	-	-	-
pantographic	wet	12" - 17"	stainless	stainless	33090W	33190W	-	✓	✓	-	-	✓
pantographic	wet	17" - 22"	stainless	stainless	33092W	33192W	-	✓	-	-	-	max 20" ≤ 80"
pantographic	wet	22" - 26"	stainless	stainless	33094W	33194W	-	-	-	-	-	-
Deluxe Adjustable												
single	dry	6.75" - 10.5"	stainless	stainless	33006A	33106A	-	✓	✓	✓	✓	✓
single	dry	10" - 14"	stainless	stainless	33007A	33107A	-	✓	✓	✓	✓	✓
single	dry	14" - 20"	stainless	stainless	33010A	33110A	-	✓	✓	max 18" ≤ 80° max 16" @ 110°	✓	✓
single	dry	10" - 14"	black	stainless	33012A	33112A	-	✓	✓	✓	✓	✓
single	dry	14" - 20"	black	stainless	33014A	33114A	-	✓	✓	max 18" ≤ 80° max 16" @ 110°	✓	✓
single	dry	18" - 24"	black	stainless	33070A	33170A	-	✓	-	-	-	max 22"
Deluxe Pantographic												
pantographic	dry	12" - 17"	black	stainless	33032A	33132A	-	✓	✓	-	-	✓
pantographic	dry	17" - 22"	black	stainless	33037A	33137A	-	✓	✓	-	-	✓

Premier Plus Stainless Steel Adjustable Single and Pantographic Wiper Arm

- Heavy-duty component design for use with the AFI™ 3.0 wiper motor
- Stainless steel and chrome-plated die cast construction
- Motor shaft mount with notched "teeth" and tapered design for secure operation
- Features "Articulating/Bend Back" design that locks arm in upright position for windshield cleaning



single – adjusts 25" to 30"



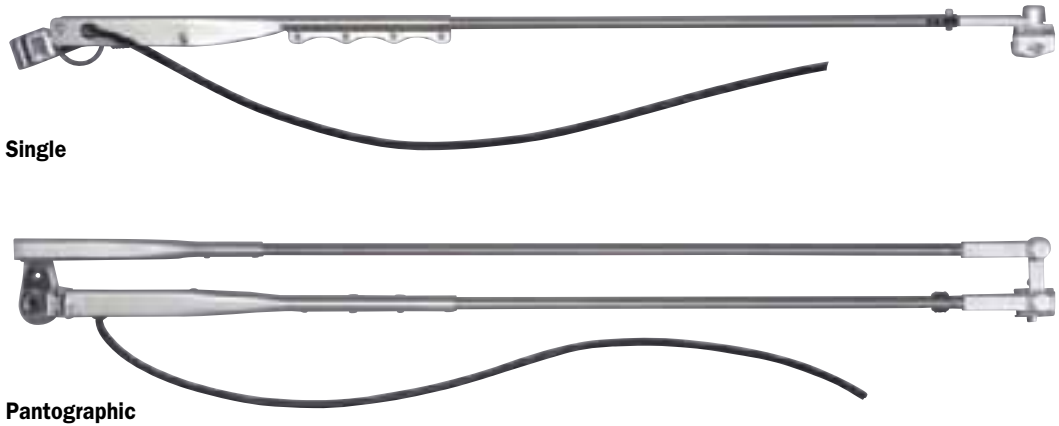
pantographic – adjusts 26" to 30"

Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
single	dry	25" - 30"	stainless	stainless	33088	33188
pantographic	dry	26" - 30"	stainless	stainless	33096	33196

WIPER ARMS

Premier Plus Stainless Steel Single and Pantographic Wet Arms

- Premier wet arms add a built-in washer system to the high-end, heavy duty construction of the AFI Premier wiper arms
- Premier wet arms feature a black PVC hose that runs up the center of the arm and ends in a four-nozzle fixture that is part of the arm itself
- Each solid brass nozzle is adjustable for maximum coverage

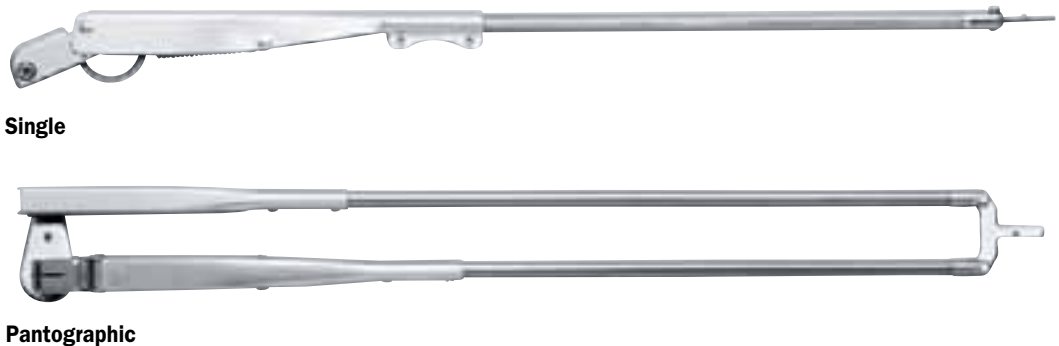


Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
single	wet	25" - 30"	stainless	stainless	33088W	33188W
pantographic	wet	26" - 30"	stainless	stainless	33096W	33196W

Pantographic wiper arms will only function properly with wiper motor sweep angles 80° or less

Premier Stainless Steel Single and Pantographic Dry Arms

- Heavy-duty component design for use with most AFI™ motors
- Stainless steel construction
- Features “Articulating/Bend Back” design that locks arm in upright position for windshield cleaning
- Motor shaft mount with notched teeth



Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
single	dry	10" - 15"	stainless	stainless	33082	33182
single	dry	15" - 20"	stainless	stainless	33084	33184
single	dry	20" - 25"	stainless	stainless	33086	33186
pantographic	dry	12" - 17"	stainless	stainless	33090	33190
pantographic	dry	17" - 22"	stainless	stainless	33092	33192
pantographic	dry	22" - 26"	stainless	stainless	33094	33194

Pantographic wiper arms will only function properly with wiper motor sweep angles 80° or less

Premier Stainless Steel Wiper Wet Arms

AFI™ Premier wiper wet arms combine the heavy-duty construction and materials of the Premier wiper arm line with a built-in wet arm system that allows for a clean and easy installation of a washer system. A simple and easy way to keep your windshield clean, the Premier wet arms feature a black PVC hose that runs up the center of the arm and ends in a four-nozzle fixture that is an integral part of the wiper arm itself. Each solid brass nozzle is adjustable to provide a maximum coverage spray pattern for most any windshield.



Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
single	wet	15" - 20"	stainless	stainless	33084W	33184W
single	wet	20" - 25"	stainless	stainless	33086W	33186W
pantographic	wet	12" - 17"	stainless	stainless	33090W	33190W
pantographic	wet	17" - 22"	stainless	stainless	33092W	33192W
pantographic	wet	22" - 26"	stainless	stainless	—	33194W

Pantographic wiper arms will only function properly with wiper motor sweep angles 80° or less

Deluxe Adjustable Wiper Arm

- All arms are stainless steel
- Arm has “articulating/bend-back” feature
- Motor shaft mounting has additional set screw clamping



Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
single	dry	6.75" - 10.5"	stainless	stainless	33006A	33106A
single	dry	10" - 14"	stainless	stainless	33007A	33107A
single	dry	14" - 20"	stainless	stainless	33010A	33110A
single	dry	10" - 14"	black	stainless	33012A	33112A
single	dry	14" - 20"	black	stainless	33014A	33114A
single	dry	18" - 24"	black	stainless	33070A	33170A

Deluxe Adjustable Pantographic Arm

- For Use with AFI™ 2.5, 1.5 and MRV Motors
- Stainless steel
- Arm has “articulating/bend-back” feature
- Motor shaft mounting has additional set screw clamping



Style	Wet/Dry	Length (adjustable)	Color	Material	Item #	OEM #
pantographic	dry	12" - 17"	black	stainless	33032A	33132A
pantographic	dry	17" - 22"	black	stainless	33037A	33137A

WIPER ARMS & BLADES COMPATIBILITY CHART

Wiper Blades

Standard, Premier, and Deluxe wiper blades are offered in different sizes and styles to fit all of the different types of wiper arms. Standard styles have plastic frame construction and marine grade rubber squeegees. Premier and Deluxe styles have stainless steel frame construction and high-end silicone rubber squeegees. These two styles have multiple frame construction, allowing for equal pressure of the entire length of the blade and silicone rubber squeegees that are durable and create a smoother wiping motion. In addition, longer length Premier blades (26", 28", and 30") are specifically designed with a saddle style attachment for the longer length Premier arms. (25"-30"). For maximum performance of all blade styles, replacement of wiper blades is recommended every 6 months.

Color/Material Length Item # OEM #	Premier Plus Blades				
	Stainless/Stainless 26"	Stainless/Stainless 28"	Stainless/Stainless 30"	Black/Black 26"	Black/Black 28" 30"
Premier Plus Wiper Arms	33026S	33028S	33030S	33026B	33028B 33030B
Single Arm	33126S	—	33130S	33126B	—
Pantograph Arm	Dry	33088	33188	33088W	33188W
	Wet	33096	33196	33096W	33196W
	33096W	33196W			

Color/Material Length Item # OEM #	Premier Blades				Deluxe Blades						Standard Blades									
	Stainless/Stainless 20"	Stainless/Stainless 22"	Stainless/Stainless 24"	Black/Black 20" 22"	Stainless/Stainless 11.5"	Stainless/Stainless 14"	Stainless/Stainless 16"	Stainless/Stainless 18"	Stainless/Stainless 20"	Stainless/Stainless 22"	Stainless/Stainless 24"	Stainless/Stainless 26"	Black/Black 12"	Black/Black 14"	Black/Black 16"	Black/Black 18"	Black/Black 20"	Black/Black 22"	Black/Black 24"	
Premier Wiper Arms	33021S	33022S	33024S	33021B 33022B	33004	33005	33015	33016	33017	33022	33023	33024	31012B	31014B	31016B	31018B	31020B	31022B	31024B	
Single Arm	33121S	33122S	33124S	33121B 33122B	33104	33105	33115	33116	33117	—	—	—	31112B	31114B	31016B	31118B	31120B	31122B	31124B	
	33082, 33182	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33084, 33184, 33084W, 33184W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33086, 33186, 33086W, 33186W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pantograph Arm	33090, 33190, 33090W, 33190W	80° only	80° only	80° only	✓	✓	80° only	80° only	80° only	✓	80° only	80° only	✓	✓	80° only	80° only	80° only	80° only	80° only	80° only
	33092, 33192, 33092W, 33192W	✓	✓	✓	✓	✓	✓	✓	✓	✓	80° only	✓	✓	✓	✓	✓	✓	✓	✓	80° only
	33094, 33194, 33094W, 33194W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Deluxe Wiper Arms	33006A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Single Arm	33106A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33007A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33107A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33010A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33110A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33012A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33112A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33014	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	330114A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33070A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33170A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pantograph Arm	33032A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33132A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33037A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	33137A	80° only	80° only	80° only	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Pantographic wiper arms will only function properly with wiper motor sweep angles 80° or less

WIPERS & HORNS

Premier Plus Stainless Steel Wiper Blades

- All Stainless Steel Construction
- Marine Grade Silicone Squeegee
- Extra squeegee “claws” spread pressure evenly over the length of the blade, allowing the blade to conform to a curved windshield.



Length	Color	Material	Item #	OEM #
26"	stainless	stainless	33026S	33126S
28"	stainless	stainless	33028S	—
30"	stainless	stainless	33030S	33130S
26"	black	stainless	33026B	33126B
28"	black	stainless	33028B	—
30"	black	stainless	33030B	—

Premier Stainless Steel Wiper Blades

- All Stainless Steel Construction
- Marine Grade Silicone Squeegee
- Extra squeegee “claws” spread pressure evenly over the length of the blade, allowing the blade to conform to a curved windshield.



Length	Color	Material	Item #	OEM #
20"	stainless	stainless	33021S	33121S
22"	stainless	stainless	33022S	33122S
24"	stainless	stainless	33024S	33124S
20"	black	stainless	33021B	33121B
22"	black	stainless	33022B	33122B
24"	black	stainless	33024B	33124B

Deluxe Stainless Steel Curved Wiper Blades

- Works well on curved or flat windshields



Length	Color	Material	Item #	OEM #
11.5"	stainless	stainless	33004	33104
14"	stainless	stainless	33005	33105
16"	stainless	stainless	33015	33115
18"	stainless	stainless	33016	33116
20"	stainless	stainless	33017	33117
22"	stainless	stainless	33022	—
24"	stainless	stainless	33023	—
26"	stainless	stainless	33024	—

WIPER BLADES

Polymer Wiper Blades

- Black glass poly-impregnated construction
- Marine-grade rubber squeegee



Length	Color	Material	Item #	OEM #
12"	black	stainless	31012B	31112B
14"	black	stainless	31014B	31114B
16"	black	stainless	31016B	31116B
18"	black	stainless	31018B	31118B
20"	black	stainless	31020B	31120B
22"	black	stainless	31022B	31122B
24"	black	stainless	31024B	31124B

Add-On Windshield Washer Kit

- Can be used on new or existing AFI™ Deluxe wiper arm and blade sets
- Kit includes parts to outfit two wiper arms
- Sprayer fittings (kit includes two) each have four adjustable brass nozzles to provide maximum spray coverage for most any windshield
- Plastic parts are numbered to make installation easy



Complete Windshield Washer Kit

Includes:

- Water tank with mounting bracket
- 12 Volt pump motor
- Under deck tee fitting
- Thru deck fitting and hardware
- Below deck clear tubing (16 ft.)
- Above deck black tubing (6 ft.)
- Large and small rivet clips
- Wiper arm clips
- Sprayer fittings with clamps

Item # 33505

OEM # 33515

Above Deck Windshield Washer Kit

Includes:

- Thru deck fitting and hardware
- Above deck black tubing (6 ft.)
- Large and small rivet clips
- Wiper arm clips
- Sprayer fittings with clamps

OEM # 33514

Below Deck Windshield Washer Kit

Includes:

- Water tank with mounting bracket
- 12 Volt pump motor
- Under deck tee fitting
- Thru deck fitting and hardware
- Below deck clear tubing (16 ft.)

OEM # 33513

Intelligent Wiper Switches

AFI's new microcontroller based "intelligent" switch provides all necessary wiper motor functions in one small component

- Settings for two continuous speed functions and three intermittent speed functions (2 second delay, 4 second delay, 8 second delay)
- Washer system operation function
- Blinking LED lights in switch indicate operating function
- Dual motor switch synchronizes both motors in each mode and deactivates each motor individually
- Works with 12V or 24V DC motors
- Fits standard switch size openings, requires 2.65"/67.5 mm depth
- Includes one ten pole connector with female pins and two female quick-connects



Single Motor **Item # 76030** OEM # 76130

Double Motor **Item # 76035**

AFI™ Horns

AFI is the leading supplier of horns to the marine industry, with over fifty years of experience in designing and manufacturing sound devices specifically for use in harsh marine environments. Stainless steel is used for all critical components such as trumpets, motor cover, diaphragms, and assembly and mounting hardware. In the case of the XLP trumpet horns, the horn is given extra protection through the complete over-molding of the internal motor cover housing. It is this extra process that provides the added protection needed to back up the five-year warranty.

AFI offers a complete line of marine horn products designed to meet almost any need, including electric and air trumpet horns, compact horns, electric and air below deck horns, and a comprehensive line of drop-in horns with a wide assortment of grill options. After developing the first below deck horn for the marine industry in the late 1980's, the offering of that product line has continued to expand. The latest addition is the "H" Horn Phase II, which is the loudest drop-in horn available today.

Notes:

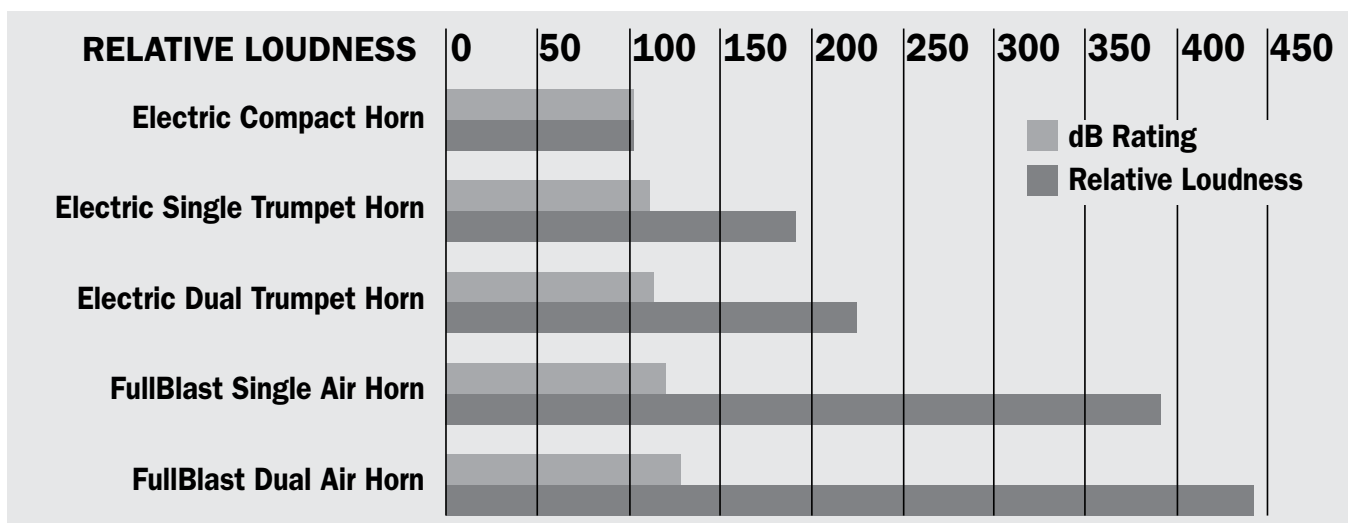
- **AFI™ electric horns meet the American Boat & Yacht Council (ABYC) Regulation #A23 for boats up to 12 meters.**
- **All AFI™ air horns meet the U.S. Coast Guard's C.O.L.R.E.G.S. and U.S. Inland Navigation Rules, Annex III Regulations for boats up to 20 meters.**
- **AFI™ horns are listed in the National Marine Manufacturers Association (NMMA) Certification Program "type accepted" list**
- **All AFI™ horns are listed for boats up to 12 meters and all AFI™ air horns are listed for boats up to 20 meters.**
- **Horn motors and compressors are 12 Volt unless otherwise indicated.**
- **AFI™ horns are set at a lower frequency to provide greater range as the sound travels across the water.**
- **Horns should be mounted facing forward whenever possible. The NMMA Certification Program requires this for boats 39' or longer.**

Notice Concerning Marine Horns, CE, and Electromagnetic Interference

In order to operate, an electric horn rapidly makes and breaks an electric circuit. This operation creates electromagnetic disturbance, which may cause electrical "noise" in communications equipment. Because a horn is only used temporarily, any interference in electronic equipment is stopped when the horn is turned off.

The International Marine Certification Institute (IMCI), which certifies boats to the European Community Regulations (CE), has determined that boats using electric horns can comply with CE requirements on electromagnetic compatibility provided the above message is given to the boat owners in their manual.

AFI™ Horn Relative Loudness Comparison Chart



HORNS

AFI, the inventor of the first below deck horns, offers a full line of below deck horn products. Concealed horns utilize an upright horn installation and a large grill opening to offer greater sound volume. Drop-In Hidden Horns use a fabric lined grill for water-resistant installations. The concealed trumpet horns are all air horns and provide the maximum amount of sound available in a below deck horn installation.

Important: Please note the space requirement dimensions on some of the below deck models to ensure there is adequate room on the interior of the mounting area to house the horn assembly. Concealed horn models require a minimum 45° mounting angle to ensure proper drainage.

AFI's Drop-In Hidden Horns combine a number of desired features into one unit including:

- Simple, drop-in installation
- Stylish snap-on grill with water-resistant fabric
- Authentic marine sound
- Easy aftermarket retrofit

“H” Horn Phase II Drop-In Hidden Horn with Black and White Grills

- Comes with both white ASA and black ABS screw-in grills
- Grills have water resistant fabric liners
- Easy installation: 2.75" diameter hole x 1" deep
- 12 Volt, maximum amp draw: 4 Amps
- New louder dB(A) rating: 111 at one meter
- Fundamental frequency: 370±20 Hz
- Mounts from the outside, grill screws on for easy install
- Easy retrofit

OEM # 10080



“H” Horn Phase II Drop-In Hidden Horn without Grill

- Same as 10080 without grill
- When purchasing bulk version, grill must be ordered separately

OEM # 11080



Grills for Drop-In Hidden Horn 11080

- Water resistant fabric liner
- Grill dimensions: 5.25" W x 3.375" H x .75" D
- Screw-in

White ASA OEM # 11187
 Off-White ASA OEM # 11194
 Black ABS OEM # 11188



Stainless Steel Grill Cover for 11080

- Installs over plastic grill 11187, 11194, or 11188
- Installation requires plastic grill
- Grill dimensions: 5.3125" W x 3.4375" H x .875" D

OEM # 11196

Stainless Steel Grill Kit for 11080

- Includes stainless steel grill cover and plastic screw-in grill (11187)

OEM # 11096

Electronic Horn with White Grill

- Electronic Piezo horn sound
- One piece water resistant housing, grill is molded to horn
- 107 dB(A) at one meter
- Fundamental frequency: 550±100 Hz
- Mounts in a standard 2.25" opening
- Draws less than one Amp, maximum draw: 0.8 Amp
- Internal space requirements: 2.25" W x 2.25" H x 2" D
- Grill dimensions: 4.875" W x 2.75" H x .5"D
- Stainless steel grill cover 11185 sold separately

Item # 10082



Stainless Steel Grill Cover for Electronic Horn 10082

- Grill dimensions: 4.9375" W x 2.8125" H x .5" D

OEM # 11185



Drop-In "H" Horn with Grills

- Comes with both black ABS and white ASA snap-in grills
- dB(A) rating: 107 at one meter
- Fundamental frequency: 370±20 Hz
- Internal space requirements: 2" H x 3.375" W x 3.25" D
- Distinctive marine horn sound
- Enclosed sound unit
- Easy installation or retrofit, mounts from the outside
- 12 Volt, maximum amp draw: 4 amps
- Stainless Steel grill cover #11124 sold separately

Item # 10079



Drop-In "H" Horn without Grill

- Same as 10079 without grill
- When purchasing 11079, grill must be ordered separately

OEM # 11079



Drop-In Hidden Horn without Grill

- Internal space requirements: 2.25" H x 3.625" W x 3.5" D
- Maximum amp draw: 3 Amps
- dB(A) rating: 105 at one meter
- Fundamental frequency: 440±20 Hz
- Mounts from the outside, horn grill snaps on for easy installation
- Easy retrofit
- Grill must be ordered separately

OEM # 11095



PATENTED

COMPACT HORNS

Grills for Drop-In Hidden Horns 11079 and 11095

- Water resistant fabric liner
- Grill dimensions: 5" W x 2.625" H x .375" D

Snap-In

White ASA OEM # 11090
 Black ABS OEM # 11091
 Chrome Plated ABS OEM # 11225

Screw-In

White ASA OEM # 11190
 Black ABS OEM # 11191
 Chrome Plated ABS OEM # 11226 (not pictured)

11225



11091



11090



11191



11190



Stainless Steel Grill Cover

- Installs over screw-in plastic grill
- Requires plastic screw-in grill for installation
- Grill dimensions: 5.0625 W x 2.75 H x .5 D

OEM # 11124

Stainless Steel Grill Kit

- Includes stainless steel grill cover and plastic screw-in grill
- Grill (with cover installed) dimensions: 5.0625" W x 2.75" H x .5" D

OEM # 11024

Mini Hidden Horn

- Type 304 stainless steel diaphragm
- Dimensions: 3.25" W x 1.75" H x 3" L
- Maximum amp draw: 3 Amps
- dB(A) rating: 105 at one meter
- Fundamental frequency: 440±20 Hz
- This horn is not designed for installation in exposed areas.

Item # 10031

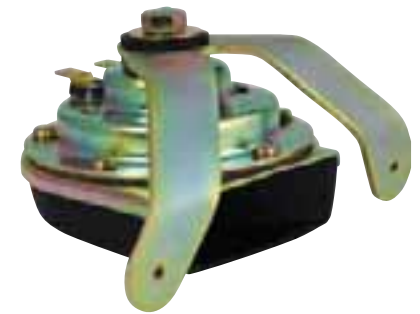
OEM # 11031



Mini Hidden Horn with Grill Bracket

- Same horn motor as 11031 but includes grill mounting bracket
- Grill must be ordered separately

OEM # 11034



Screw-In Black ABS Grill with Gasket for 11034

- Grill dimensions: 5" W x 2.625" H x .375" D

OEM # 11168



Screw-In Stainless Steel Grill for 11034

- Grill dimensions: 5" W x 2" H x .25" D

OEM # 11088



Concealed Compact Electric Horn

- Grill dimensions: 3.875" W x 4.25" H
- Internal space requirements: 5.5"W x 6" H x 4" D
- Maximum amp draw: 3 Amps
- dB(A) rating: 109 at one meter
- Fundamental frequency: 415±20 Hz
- Grill must be ordered separately

OEM # 11050

**Stainless Steel Grill for 11050**

OEM # 11060

Concealed Single Mini Air Horn

- Solid brass construction
- Includes compressor, air tubing, fittings, and hardware
- Internal space requirements: 13" H x 5" W x 3.75" D
- Air compressor dimensions: 2.625" D x 5" L
- Maximum amp draw: 20 Amps
- dB rating: 126 at one meter, 1/3 octave band
- Fundamental frequency: 630±15 Hz
- Grill must be ordered separately

OEM # 11059

**Stainless Steel Grill for 11059**

- Dimensions: 4.6875" H x 4.6875" W

OEM # 11064

Concealed Dual Trumpet Air Horn

- Solid brass construction
- Can be mounted side by side with dual grill 11066 or separately with two single grills 11064
- Includes compressor, air tubing, fittings, and hardware
- Internal space requirements: 10" W x 18.5" H x 3.75" D
- Air compressor dimensions: 5" L x 2.625" D
- Maximum amp draw: 20 Amps
- dB rating: 121 at one meter, 1/3 octave band
- Fundamental frequency: 375±15/315±15 Hz

OEM # 11058

**Stainless Steel Grill for 11058**

OEM # 11066

TRUMPET HORNS

AFI's FullBlast compressor driven air horns are the loudest and most complete line of 12V air horns available. All of our air horns produce sound levels ranging between 120 and 127dB, which means all of our air horns meet the ABYC and NMMA regulations for boats up to 20 meters/66 feet. Both 12 and 24 volt compressors are CE listed.

WIPERS & HORNS

Loudest Single Air Horn
at 126 dB



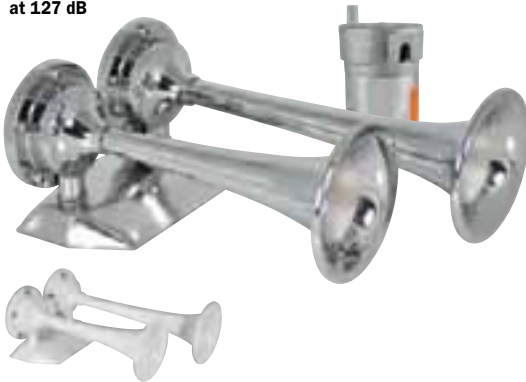
Single Trumpet Mini Air Horns

- Solid brass construction
- Non-corrosive Lexan® polycarbonate diaphragm
- Includes compressor, air tubing, fittings, and hardware
- Dimensions: 9.5" L x 3.5" W x 3.5" H
- Maximum amp draw: 12 Volt: 20 Amps, 24 Volt: 10 Amps
- dB rating: 126 at one meter, 1/3 octave band
- Fundamental frequency: 630±15 Hz

Chrome Plated **Item # 10107** OEM # 11107
White Epoxy Coated **Item # 10104**

12V compressor produces 9-11 PSI

Loudest Dual Tone Air Horn
at 127 dB



Dual Trumpet Mini Air Horns

- Solid brass construction
- Non-corrosive Lexan® polycarbonate diaphragm
- Includes compressor, air tubing, fittings, and hardware
- Dimensions: 9.5" L x 5" W x 3.75" H
- Maximum amp draw: 12 Volt: 20 Amps, 24 Volt: 10 Amps
- dB(A) rating: 127 at one meter, 1/3 octave band
- Fundamental frequency: 630±15/525±15 Hz

Chrome Plated **Item # 10108**
White Epoxy Coated **Item # 10121**

12V compressor produces 9-11 PSI



Single Trumpet Air Horns

- Solid brass construction
- Non-corrosive Lexan® polycarbonate diaphragm
- Includes compressor, air tubing, fittings, and hardware
- Dimensions: 17" L x 3.75" W x 3.75" H
- Maximum amp draw: 12 Volt: 20 Amps, 24 Volt: 10 Amps
- dB rating: 120 at one meter, 1/3 octave band
- Fundamental frequency: 315±15 Hz

12 Volt **Item # 10105**
24 Volt **Item # 10524**

12V compressor produces 9-11 PSI

LEXAN® is a registered trademark of Sabic Innovative Plastics IP B.V., Netherlands



Dual Trumpet Air Horns

- Non-corrosive Lexan® polycarbonate diaphragm
- Includes compressor, air tubing, fittings, and hardware
- Dimensions: 17" L x 7" W x 3.75" H
- Maximum amp draw: 12 Volt: 20 Amps, 24 Volt: 10 Amps
- dB rating: 121 at one meter, 1/3 octave band
- Fundamental frequency: 375±15/315±15 Hz

12V Chrome Plated **Item # 10106** OEM # 11106
 12V White Epoxy Coated **Item # 10122**
 24V Chrome Plated **Item # 10624**
 24V White Epoxy Coated **Item # 10104** OEM # 22224

12V compressor produces 9-11 PSI



Air Compressor

- Replacement compressor fits all AFI™ Air Horns
- Dimensions: 2.625" D x 5" L
- Includes mounting bracket
- Maximum amp draw: 20 Amps, Produces 9-11 PSI

12V OEM # 10102
 24V OEM # 10224



Our Loudest Electric Single Trumpet Horn at 118 dB

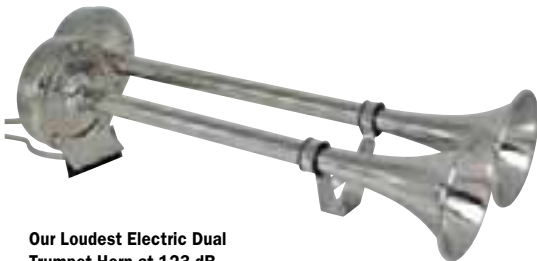


Single Trumpet Electric Horn

- 5 Year Warranty
- 100% stainless steel exterior
- Includes laminated horn signal card and stain less steel mounting screws
- Type 304 stainless steel diaphragm
- Dimensions: 16.5" L x 4" W x 4.75" H
- Maximum amp draw: 5 Amps
- dB(A) rating: 118 at one meter
- Fundamental frequency: 390±15 Hz

Premium XLP

12V **Item # 10028XLP** OEM # 11028XLP
 24V **Item # 10017XL** OEM # 11017XLP Max amp draw: 2.5 Amps



Our Loudest Electric Dual Trumpet Horn at 123 dB



Dual Trumpet Electric Horn

- 5 Year Warranty
- 100% stainless steel exterior
- Includes laminated horn signal card and stainless steel mounting screws
- Type 304 stainless steel diaphragm
- Dimensions: 18.5" L x 8" W x 5" H
- Maximum amp draw: 10 Amps
- dB(A) rating: 123 at one meter
- Fundamental frequency: 390±15/330±15 Hz

Premium XLP

12V **Item # 10029XLP** OEM # 11029XLP
 24V **Item # —** OEM # 11018XLP Max amp draw: 5 Amps

LEXAN® is a registered trademark of Sabic Innovative Plastics IP B.V., Netherlands

SURFACE MOUNT HORNS



Compact Single Trumpet Electric Horn

- 100% stainless steel exterior
- Type 304 stainless steel diaphragm
- Dimensions: 14" L x 3.5" W x 4" H
- Maximum amp draw: 3.5 Amps
- 12 Volt
- dB(A) rating: 108 at one meter
- Fundamental frequency: 460±15 Hz

Item # 10010

Compact Design Easier to Install In Smaller Spaces



Compact Dual Trumpet Electric Horn

- 100% stainless steel exterior
- Type 304 stainless steel diaphragm
- Dimensions: 16" L x 7.5" W x 4" H
- Maximum amp draw: 7 Amps,
- 12 Volt
- dB(A) rating: 110 at one meter
- Fundamental frequency: 460±15/415±15 Hz

Item # 10011

Compact Design Easier to Install In Smaller Spaces



MiniBlast™ Compact Electric Horns

- Long lasting, non-corrosive ASA plastic cover
- Sealed sound unit with stainless steel diaphragm
- Mounts in same hole pattern as the 10035 horn
- Dimensions: 4.375" L x 3.375" W x 2" H
- Maximum amp draw: 3 Amps, 12 Volt
- dB(A) rating: 106 at one meter (3 feet)
- Fundamental frequency: 440±20 Hz

White **Item # 10099** OEM # 11099

Black **Item # 10098** OEM # 11098



Mini Compact Electric Horn

- Totally sealed sound unit
- Type 304 stainless steel cover, diaphragm, mounting bracket
- Dimensions: 3" L x 3.25" W x 1.75" H
- Maximum amp draw: 3 Amps, 12 Volt
- dB(A) rating: 106 at one meter
- Fundamental frequency: 440±20 Hz

Item # 10035

OEM # 11035



Mini Twin Electric Horn

- Type 304 stainless steel covers, diaphragms, and mounting bracket
- Dimensions: 3" L x 8" W x 1.75" H
- Maximum amp draw: 6 Amps, 12 Volts
- dB(A) rating: 109 at one meter
- Fundamental frequency: 490±20/440±20 Hz

Item # 10001

OEM # 11001



Compact Single Horn with Black Cover

- Stainless steel diaphragm and mounting bracket
- Black polypropylene cover
- Dimensions: 4.5" L x 4" W x 3" H
- Maximum amp draw: 4 Amps, 12 Volt
- dB(A) rating: 108 at one meter
- Fundamental frequency: 350±15 Hz

Item # 10023



International Shorty Horn

- Stainless steel diaphragm and mounting bracket
- ABS, triple chrome-plated housing
- Dimensions: 4.25" L x 5" W x 6.5" H
- Maximum amp draw: 4 Amps, 12 Volt
- Fundamental frequency: 290±15 Hz
- Loudest AFI™ compact electric horn
- dB(A) rating: 123 at one meter

Item # 10036



O/B Platform Kit with Telescoping Two Step Ladder

- White Poly Platform for Boats w/ Inboard/Outboard Motors
- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 18" W (back), 17" W (front) x 15" D x .75" thick
- Telescoping ladder easily stores on top of platform
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67904

O/B Platform Kit with Under-Mount Telescoping Two Step Ladder

- White Poly Platform for Boats w/ Inboard/Outboard Motors
- Same specifications as 67904, w/ under-platform ladder mounting hardware
- Hardware to attach platform to boat is not included

Item # 67906 not pictured



I/O Platform Kit with Under-Mount Two Step Telescoping Ladder

- White Poly Platform for Boats w/ Inboard/Outboard Motors
- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 18" W (back), 17" W (front) x 15" D x .75" thick
- Telescoping ladder easily stores on top of platform
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67907



O/B Platform Kit - White Poly Swim Platform for Boats w/ Outboard Motors

- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 8" W (back), 17" W (front) x 15" D x .75" thick
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67900



O/B Platform Kit With Ladder - White Poly Swim Platform for Boats w/ Outboard Motors

- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 18" W (back), 17" W (front) x 15" D x .75" thick
- Ergonomically designed ladder loop angles outward to provide more comfortable boarding access
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67902



I/O Platform Kit - White Poly Swim Platform for Boats w/ Inboard/Outboard Motors

- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 18" W (back), 17" W (front) x 15" D x .75" thick
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67901



I/O Platform Kit With Ladder - White Poly Platform for Boats w/ Inboard/Outboard Motors

- Platform kits are easy to assemble using pre-marked and pre-drilled holes for all hardware assembly attachments
- Molded platform manufactured of UV resistant, high strength polypropylene
- Anti-skid ribs and textured surface molded onto platform
- All tubing, brackets and hardware are stainless steel
- Platform measures: 18" W (back), 17" W (front) x 15" D x .75" thick
- Ergonomically designed ladder loop angles outward to provide more comfortable boarding access
- Some assembly required
- Hardware to attach platform to boat is not included

Item # 67903

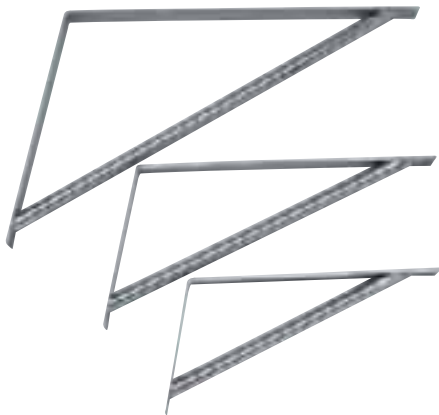


Telescoping Swim Ladders

- 304 stainless steel construction with plastic treads
- Includes mounting gudgeons
- 34" L x 11" W extended, 15.5" L x 11" W collapsed) – 3 Step
23" L x 11" W extended, 13.5" L x 11" W collapsed) – 2 Step
- 1.25" diameter tubing (top tube) – 3 Step
1" diameter tubing (top tube) – 2 Step
- Distance from the top of platform to first step: 9.25"; distance from first step to second step: 11"
- Telescopes for compact storage on top of platform. Platform must be ordered separately.

3 Step **Item # 67934**

2 Step **Item # 67933**



Swim Platform Mounting Brackets

- Brackets are 102 degrees, or 12 degrees off of 90 degrees

H x L x W	Use with:	Item #
7" 14" x 1.5"	smaller swim platforms 60924, 65924	60993
9" 17" x 1.5"	60972, 60980, 65984, 65972	60995
14" 21" x 1.5"	60990	60996



12" X 20" Rod Holder Mount Fillet Table

- Easily adjustable, multi-position gimbaled rod holder mounting system included
- Solid one-piece construction provides a strong long-lasting part that is easy to clean and maintain
- UV stabilized high-density polyethylene
- Measures 20" wide by 12" deep
- Rod holder mounting system folds flat for easy storage
- Assembles in minutes, with all assembly hardware included
- Easily accessible knife (3) and pliers holder (1)
- Fillet knives sold separately

Item # 67510

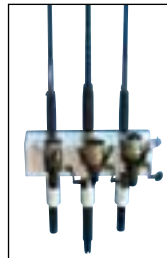
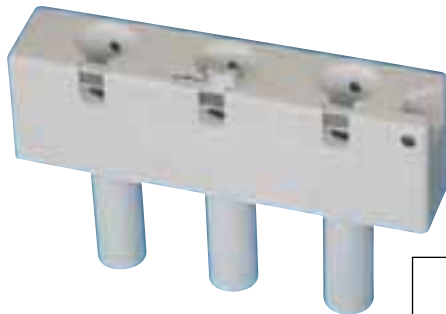


T-Rack Overhead Storage Rack

The only fishing rod/gear storage product which is specifically designed to be easily installed on T-tops or towers. Other rod storage products require the boat owner to either screw into the structural aluminum or stainless pipes of a T-top (compromising its strength and weatherability) or to devise a 'home made' installation method.

- No drilling required
- Comes complete with all hardware required to mount to virtually any T-top or tower (accommodates regular size round, oval or square pipe)
- Innovative design 'automatically' snugs bungee retaining cord in place as fishing rod is inserted into rack (see photos).
- Firmly holds fishing rods, gaffs, outrigger poles, nets, boat hooks, tag sticks, etc
- Offers convenient, out of the way storage to the boat owner; utilizing otherwise unused space

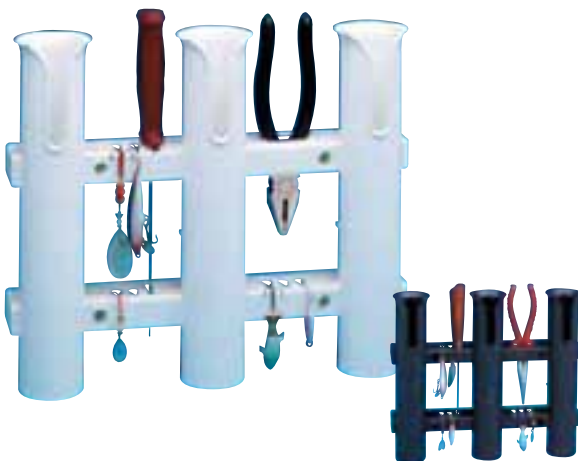
Item # 67660



Locking Molded Rod Holder

- Innovative design deters theft of rod and reel
- Constructed of fiber-reinforced polymers and marine-grade stainless steel
- Once locked, reel cannot be removed from rod, rod cannot be removed from rack, and rack mounting hardware cannot be accessed.
- Easy to install - mounting hardware is included
- Easy to use - when not locked, locking panel is held 'open' to allow fast, easy access to gear
- Accommodates virtually all spinning rod/reel combinations
- Accommodates virtually all medium sized padlocks (not included) to secure gear

Item # 67650



One-Piece Molded Three-Rod Tournament Storage Rack

- Unique design holds knife, pliers and fishing tackle
- Includes stainless steel mounting hardware
- Easy to install
- 12.5" W x 10.75" H x 2.5" D
- Durable, corrosion proof polypropylene construction
- Three year warranty

White **Item # 67633**

Black **Item # 67634**

ROD HOLDERS

MARINE ACCESSORIES



Flush Mount Rod Holder

- 60° tube with integral flip-up cap
- Stainless steel construction
- Full-length rubber liner
- 9.5" L x 1.5" I.D.
- Weighs 1.1 lbs.

Item # 40019



Rod and Reel Holder

- One-piece injection molded with integral stand-offs
- High-quality U.V. stabilized polypropylene
- 12" L x 1.75" I.D.
- Lifetime warranty
- Can be used as individual rod holders, or as replacement part for the 65621, 65622, or 65623 storage racks

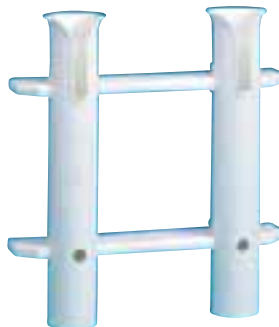
Item # 40030
OEM # 41030



Flush Mount Rod Holder

- 90° tube with integral flip-up cap
- Stainless steel construction
- Full-length rubber liner
- 8.125" L x 1.5" I.D.
- Weighs 1.1 lbs.

Item # 40020
OEM # 41020



White Poly Two-Rod Tournament Storage Rack

- Polypropylene, U.V. stabilized tubes and white poly mounting rails
- 11.25" L x 11.9375" H x 2.625" D
- Lifetime Warranty

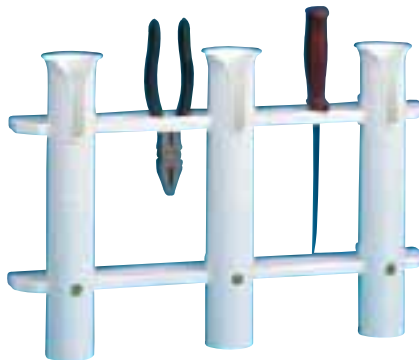
Item # 65621



Flush Mount Rod Holder-Stamped Open End

- 60° tube with integral flip-up cap
- Stamped stainless steel construction
- Full-length rubber liner
- 9.5" L x 1.5" I.D.
- Weighs 1.1 lbs.

Item # 40018
OEM # 41018



White Poly Three-Rod Tournament Storage Rack with Knife & Pliers Holder

- Polypropylene, U.V. stabilized tubes and white poly mounting rails
- 18" L x 11.9375" H x 2.625" D
- Lifetime Warranty

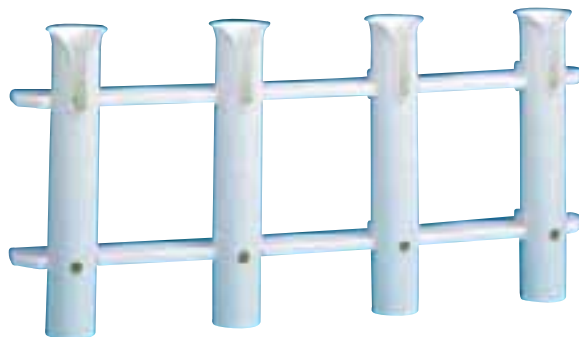
Item # 65622



Plastic and Stainless Steel Flush Mount Rod Holder

- 60° tube with integral flip-up cap
- Stainless steel and high strength white molded plastic construction
- Full-length rubber liner
- 8.125" L x 1.5" I.D.
- Weighs 1.1 lbs.

Item # 40035



White Poly Four-Rod Tournament Storage Rack

- Polypropylene, U.V. stabilized tubes and white poly mounting rails
- 24.625" L x 11.9375" H x 2.625" D
- Lifetime Warranty

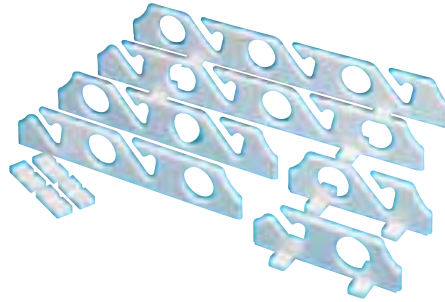
Item # 65623



Clamp-On Adjustable Rod Holder

- Angle of rod holder can be adjusted from the front without removing the rod holder from the rail
- Stainless steel construction
- Rubber tipped opening
- Easy to adjust

Item # 40025



Molded Poly Four-Rod Fishing Rod Storage Rack

- 15.5" L x 2.875" H x .75" D
- Sold in pairs
- Mounting boards and hardware are included

Item # 65612



Binocular Rack

- White poly (HDPE)
- Outside Dimension: 8.5" W x 5.125" H x 3.625" D
- Inside Dimension: 8" W x 4.75" H x 3.125" D

Item # 65702



One-Piece Molded Knife & Pliers Holder

- Holds two knives and pliers
- Holds up to 15 pieces of fishing tackle
- UV stabilized corrosion proof materials
- 4" W x 9" H x 2.25" D
- Easy to install
- Includes stainless steel mounting screws
- 5 year warranty
- OEM part is bulk packed and does not include stainless steel mounting screws

Item # 67607



Rail Clamps

- Quick mount clamps require no holes to be drilled in railings for installation
- Clamps mount to the railings simply by tightening the wing nut
- Fits any .75", 1" OR 1.25" railings
- Quick release design allows items to be quickly and easily removed for storage
- Use for all sorts of accessory installations, including glass racks, binocular holders, bottle holders, and other similar items
- Two (2) per package

Item # 62669

HANDRAILS & DRINKHOLDERS

MARINE ACCESSORIES



Stainless Steel Handrails

- With .25" 20 x 2" welded studs
- Retail product includes hardware and mounting gaskets
- OEM part comes with mounting gaskets only
- Exterior mount
- Mounting hardware not included
- 304 Stainless meets ABYC standard for handrails

Welded Stud	Formed End
12" Item # 74012	12" Item # 74212
18" Item # 74018	18" Item # 74218
24" Item # 74024	24" Item # 74224



Molded Plastic Handrail

- 10" L
- PVC covered plastic
- Includes mounting hardware

White	Item # 74512
Black	Item # 74412



One/Two Cup Swing-Out Poly Drink Holder

- Swing out model doubles drink capacity
- Suction cup mounting on smooth vertical surfaces
- Can also be mounted with supplied stainless steel hardware
- Molded from UV resistant, high strength polypropylene

Item # 67722



Two/Four Cup Swing-Out Poly Drink Holder

- Swing out model doubles drink capacity
- Suction cup mounting on smooth horizontal or vertical surfaces
- Can also be mounted with supplied stainless steel hardware
- Holds large coffee mugs and insulated drink holders
- Molded from UV resistant, high strength polypropylene

Item # 67723



Collapsible Drinkholder

- Collapses and folds flat when not in use
- Dimension closed: 3.75" square x .875" D
- Holds cans, bottles or glasses
- Holds drink containers up to 3" diameter
- Mounts on any flat surface
- Weather resistant, stainless steel and plastic construction
- Mounting hardware included

Black White
Item # 20055 Item # 20056

Simply flip up the tabs to hold large glasses, mugs, or cans in insulators and flip the tabs down to the horizontal position to hold cans, small bottles, and glasses.



Adjustable Drinkholder

- Collapses and folds flat when not in use
- Dimension closed: 4.125" square x .875" D
- Holds mugs and insulated can holders and adjusts to hold smaller cans, bottles and glasses
- Holds drink containers up to 3.25" diameter
- Mounts on any flat surface
- Weather resistant, stainless steel and plastic construction
- Mounting hardware included
- Unique patented design

black **Item # 20061**
white **Item # 20062**



White Recessed Drinkholder

- Holds mugs and insulated can holders and adjusts to hold smaller cans, bottles and glasses
- Plastic construction

Item # 20063



Stainless Steel Collapsible Drinkholder

- Collapses and folds flat when not in use
- Dimension closed: 3.75" square x .875" D
- Holds drink containers up to 3" diameter
- Mounts on any flat surface
- Weather resistant, stainless steel and plastic construction
- Mounting hardware included

Item # 20065

VENTILATION BASICS

How Solar Vents Work

Maintenance Ventilation

In most climates, boats that have been closed for a period of time will become “stuffy.” The temperature differential that develops between the boat cabin and the outdoor environment will cause the humidity level inside the boat cabin to rise. When the humidity level in the closed cabin rises, moisture forms, resulting in mold, mildew and musty air. In these conditions, fabrics, boat electronics and even the boat’s fiberglass structure can be damaged. By consistently replacing trapped, stale air in the closed boat with fresh outside air, the humidity equalizes from inside to outside, resulting in effective maintenance ventilation.

Comfort Ventilation

Combining different types of vents, with one vent providing “intake” air flow while another vent provides “exhaust” air flow, creates cross-flow ventilation. A cross-flow ventilation system will make the interior cabin more comfortable and pleasurable because air is constantly moving throughout the cabin. No matter what your boat size or cabin configuration is, you can increase your boating enjoyment with the addition of ventilation.

Safety Ventilation

Most boaters are unaware of the hazards that exist in the boating environment. Any number of serious ventilation problems can occur when a boat is left unattended. And even if you are underway, these problems don’t go away. Fumes and gasses, ranging from carbon monoxide to hydrogen gas from battery charging, to gasoline, propane or solvents stored below, are unpleasant, and can sometimes be dangerous. Also, any open flame devices in the cabin require proper ventilation. Ventilation helps to eliminate these hazards by providing constant air circulation resulting in effective safety ventilation.

How Much Ventilation Is Required For Your Boat?

Ideally, the air in the interior of a boat should be circulated once every hour. A typical 30-foot boat contains approximately 800 cubic feet of air. As you will see, our solar powered models can move between 600 and 1,000 cubic feet of air every hour. The general guidelines for providing maintenance ventilation are as follows:

Boat Size	Recommended Ventilation
Up to 24 ft.	1 Exhaust Vent*
24 to 40 ft.	1 Exhaust Vent & 1 Intake Vent
40 ft. and larger	2 Exhaust Vents & 1 Intake Vent

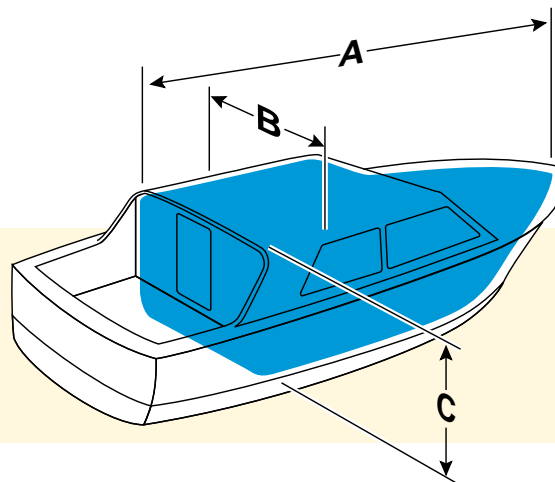
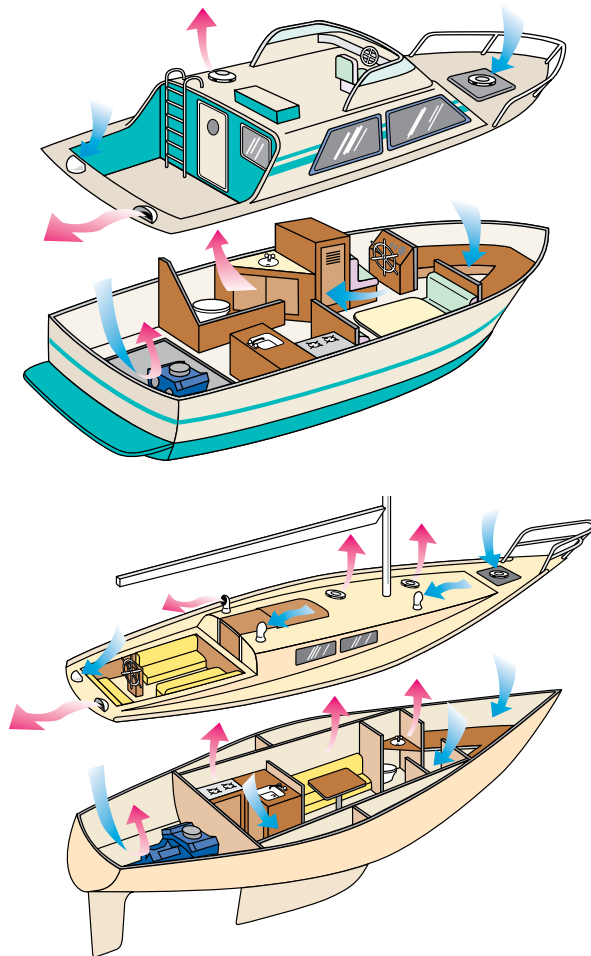
* For effective maintenance ventilation, one vent assumes there will be access for air to get into the cabin (i.e., cowl vent, clamshell vent or louvered panel)

To Specifically Calculate Your Boat’s Air Volume, Use This Simple Formula:

- $A \times B \times C \times 70\% = \text{Boat Interior Volume}$
- A Dimension is the interior length (excluding cockpit)
- B Dimension is the boat width
- C Dimension is the average interior height

It is important to evaluate the cabin layout of your boat to determine optimal locations for both intake and exhaust ventilation. These illustrations suggest placement for Marinco™ solar powered vents and Marinco™ passive vents.

Note how the placement of the vents creates cross flow ventilation.



Installation

All Maringo™ ventilation products include clear, easy-to-understand installation instructions. These instructions address all of the key factors of a professional installation, such as:

- Proper hole measurement and cutting procedures
- Proper deck plate installation
- Use of sealants to waterproof your vent installation
- Installing vents in hatches
- Installing vents in “cambered” or slightly curved decks
- Use of interior trim rings to “dress up” the cabin

The high quality level of Maringo™ Ventilation products must be combined with a sound installation to guarantee that your vent performs in all conditions. Maringo will make sure that your installation will be easy and successful so that you can enjoy the benefits of installation for a long time to come.

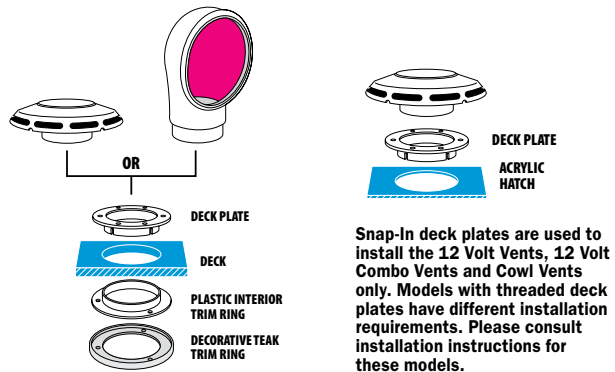
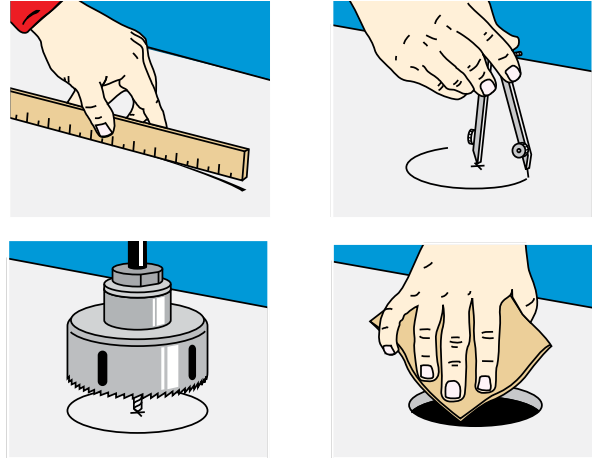
Maringo™ Ventilation Installation Systems





Snap-In Deck Plate Installation

The 12 volt vent, 12 volt combo vent and cowl vents use the Maringo™ Snap-In deck plate system. The Snap-In system allows the easy exchange of any Snap-In part for upgrading or convenience, as well as the use of a Snap-In cover that completely seals the deck plate making it water tight.

Direct-To-Deck Installation

The Day/Night Plus, MiniVent 1000 and AirVent 500 are designed to be installed directly to the deck without the requirement for a deck plate. All of these vent systems have built-in shut-off dampers that operate from below.



	Airflow Size	Hole Size Dia	Deck Plate	Mounting Flange Depth	Operation		Cubic Feet of Air	Intake	Exhaust
					Day	Night			
	4" / 102 mm	4-3/4"	None (Direct to Deck Mounting)	1.75"	Solar	Rechargeable Battery Power	1000 ft ³ /hour / 20 m ³ 24,400 ft ³ /day / 672 m ³	Fan	Fan
	3" / 76 mm	3-3/4"	None (Direct to Deck Mounting)	1.75"	Solar	Rechargeable Battery Power	600 ft ³ /hour / 17 m ³ 16,800 ft ³ /day / 408 m ³	Fan	Fan
	3" / 76 mm	3-3/4"	None (Direct to Deck Mounting)	1"	Solar	Passive	700 ft ³ /hour / 20 m ³ 5,600 ft ³ /day / 160 m ³	Exhaust fan only	Fan
	3" / 76 mm	3-3/4"	None (Direct to Deck Mounting)	1"	Passive	Passive	600 ft ³ /hour / 17 m ³ In a 15 Knot Breeze	Exhaust fan only	Passive
	4" / 102 mm	4-3/4"	Snap-In (6" Outer Diameter)	1"	Passive	Passive	—	Passive	Passive
	3" / 76 mm	3-3/4"	Snap-In (5" Outer Diameter)	1"	Passive	Passive	—	Passive	Passive

Day/Night Plus Vent with Stainless Steel Cover

- Circulates fresh air in boat cabin eliminating mold, mildew and musty air
- Moves 1,000 cubic feet of air/hour or 24,000 cubic feet of air/day (4" model)
- Rechargeable battery allows for 24-hour continuous operation
- Whisper quiet fan operation
- No wiring required
- Interchangeable intake and exhaust fans
- High capacity NiMh battery operates vent for up to 40 hours without sunlight on a full charge
- 2 year limited warranty
- Direct to deck installation
- Built-in on/off fan switch
- Complete air and green water shut-off from below
- All Day/Night PLUS models come complete with two fan blades, white plastic interior trim ring, insect screen, mounting hardware and an easy-to-understand installation manual.
- **Replaces NICRO 3" & 4" snap-in deck plates (fits existing holes once snap-in deck plates are removed)**

3" White **Item # N20703W** 4" White **Item # N20704W**
 3" Stainless Steel **Item # N20703S** 4" Stainless Steel **Item # N20704S**



Replacement NiMh Nickel Metal Hybrid Battery for Day/Night Plus Vents

- High capacity C-cell battery
- 1.2 volts, 2.0 amp-hours
- Replacement battery for current Day/Night Plus vents, as well as, older model PowerVent 3000 and Day/Night 2000 Vents.
- Average life: 3-5 years
- Environmentally friendly

Item # N20790



Mini Vent 1000

The MiniVent 1000 is the smallest and most economical solar vent in the Marincó™ line. At just 7" in diameter and approximately 1-3/4" high, the MiniVent 1000 is compact yet effective. This solar powered model is an exhaust vent only. It will keep the boat cabin cool when you need it most, during the hot sunlight hours. Under solar power, the Mini Vent 1000 will move 700 cubic feet of air an hour. At night, even a light breeze will continue to ventilate the boat passively.

Built-in shut-off damper prevents water intrusion in rough seas. Fits a 3-3/4" diameter installation hole. The vent can be retrofitted to an existing hole of up to 6" in diameter. Available in white ABS plastic or stainless steel. Optional stainless steel cover is also available separately.

- Solar powered exhaust ventilation during daylight and passive exhaust at night
- No batteries or wiring required
- Whisper-quiet fan operation
- Durable white ABS construction
- Shut-off damper to prevent water intrusion in rough seas
- 2-year limited warranty and 5-year qualified warranty
- Dimensions: 7" diameter X 1-3/4" high
- All MiniVent 1000 models come complete with white plastic interior trim ring, mounting hardware and an easy-to-understand installation manual.

3" White **Item # N20020**
 3" Stainless Steel **Item # N20030**

Stainless Steel Cover for Mini Vent 1000

Item # N28830



**Air Vent 500
Passive Exhaust Ventilation**

Marinco offers the AirVent 500 as a non-solar ventilation option that can passively move 600 to 1,000 cubic feet of air per hour in a 15 knot breeze. Marinco's engineering expertise created this vent to be strong, compact and effective. The AirVent 500 is an economical way to provide ventilation in your boat or it can be used in conjunction with other solar powered or 12V vents to create cross flow air circulation.

- Compact size: 7" diameter x 1-3/4" high
- High Air Flow volume 1,000 cu. ft./hour in a 15 knot breeze
- Strong U.V. stabilized white ABS construction
- Center panel is translucent plastic allowing light to pass through it below deck
- Center damper shuts vent off from below
- Easy installation - attaches directly to deck in compact 3-3/4" diameter hole and can be retrofitted to an existing hole of up to 6" in diameter.

Item # **N28810**

Stainless Steel Cover for Air Vent 500

Item # **N28830**



Cowl Vents

Cowl Vents are available in both low profile and standard height contours. These vents are a perfect air intake supplement to solar ventilation, and are also commonly used as a bilge ventilating system with or without a mechanical blower. Marinco was the first supplier of soft, durable PVC vents that are flexible and safe. For interchangeability, Marinco™ 4" cowl vent models fit into the same 4" Snap-In deck plates used by the Combo and 12V vents (3" or 4" sizes).

- Soft and durable PVC construction returns to original shape if stepped on
- Safer than metal cowl vents - prevents injury and resists snagging lines
- Snap-In vents include deck plate and cover
- 4" models interchangeable with Marinco™ Combo and 12V Vent 4" snap-in deck plates
- Marinco™ adapter accessories make installing below-deck duct hose easy.



**Snap-In Deluxe
Low Profile
PVC Cowl Vent**

- White with bright red interior
- Available in 3" or 4" sizes
- 3" size measures 4-1/2" high
- 4" size measures 5-1/2" high
- Includes white Snap-In deck plate and cover

3" **Item # N10863**
4" **Item # N10864**



**Snap-In Deluxe
Standard PVC Cowl Vent**

- White with bright red interior
- Available in 3" or 4" sizes
- 3" size measures 8" high
- 4" size measures 10" high
- Includes white Snap-In deck plate and cover

3" **Item # N10963**
4" **Item # N10964**

CLAM VENTS & DECK PLATES

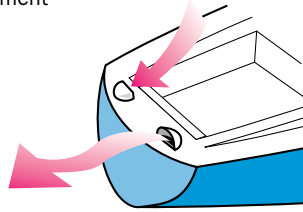
VENTILATION

Clam Shell Vents

- Ideal for ventilation needs where a taller vent would foul lines or restrict crew movement
- Work well as stern mounted ventilators for engine compartment
- Can be used for cabin ventilation with dorade boxes
- Flexible PVC construction
- Small clam shell dimensions: 2-1/2" H x 4-1/2" W x 5" L
- Large clam shell dimensions: 3" H x 5-3/8" W x 6-3/4" L

Small **Item # N10873**

Large **Item # N10874**



White Snap-In Deck Plate

- Includes Snap-In watertight cover
- Use with any Marinco™ Snap-In vent system
- N10863DW requires a 3-3/4" diameter hole cutout
- N10864DW requires a 4-3/4" diameter hole cutout

3" **Item # N10863DW**

4" **Item # N10864DW**



Plastic Interior Trim Ring

- Finishes off interior installation of vent
- Can be installed in decks between 1" and 2" thick
- Available in 3" and 4" sizes
- White plastic construction
- **Note: Interior trim rings are not compatible with threaded deck plates**

3" **Item # N10866**

4" **Item # N10867**

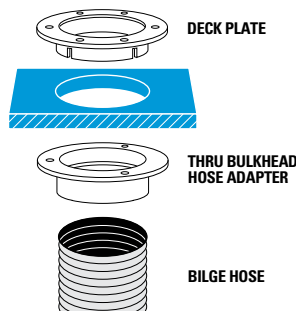


Thru Bulkhead Hose Adapter

- For termination attachment of hose to bulkhead
- For attaching hose to cowl vent
- Can be used with Snap-In or threaded deck plates
- For use in decks or bulk heads of more than 1" thick

3" **Item # N10869**

4" **Item # N10870**





1 YEAR WARRANTY

Marine Fan

- 120° adjustable oscillating fan
- Can be set for stationary operation
- Mount on wall, ceiling or dash
- Built-in on/off switch
- Installation hardware included
- 12 volt DC operation, 1.2 amp draw
- Translucent fan blades
- 7.5" vinyl-coated fan guard
- Mounting base dimensions: 3.375" L x 1.5" W
- Stands 8" from mounting surface

Item # 900



1 YEAR WARRANTY

Folding Fan

- Fan folds out of the way when not in use
- Rotating louver directs air flow
- Mount on wall, ceiling or dash
- Built-in on/off switch
- Installation hardware included
- 12 volt DC operation, .8 amp draw
- Dimensions: 6.75" W x 5.06" H x 1.93" D

Item # 902



1 YEAR WARRANTY

Personal Fan

- 180° adjustable swivel fan
- Mount on wall, ceiling or dash
- Built-in on/off switch
- Installation hardware included
- 12 volt DC operation
- Compact design installs anywhere
- Great for windshield defogging
- Base Dimensions: 3" diameter
- Stands 5" from mounting surface

Item # 903-5



The CZone™ digital control & monitoring system is designed for manufacturers and installers of Marine, RV and Specialty Vehicles. It simplifies installation of electrical systems through the replacement of complicated, cumbersome wiring to switch and fuse panels, with state of the art, robust interfaces and light NMEA 2000 network cable. It also provides the end user a sophisticated solution through the automation of complicated control and monitoring issues associated with today's on board systems.

Installation

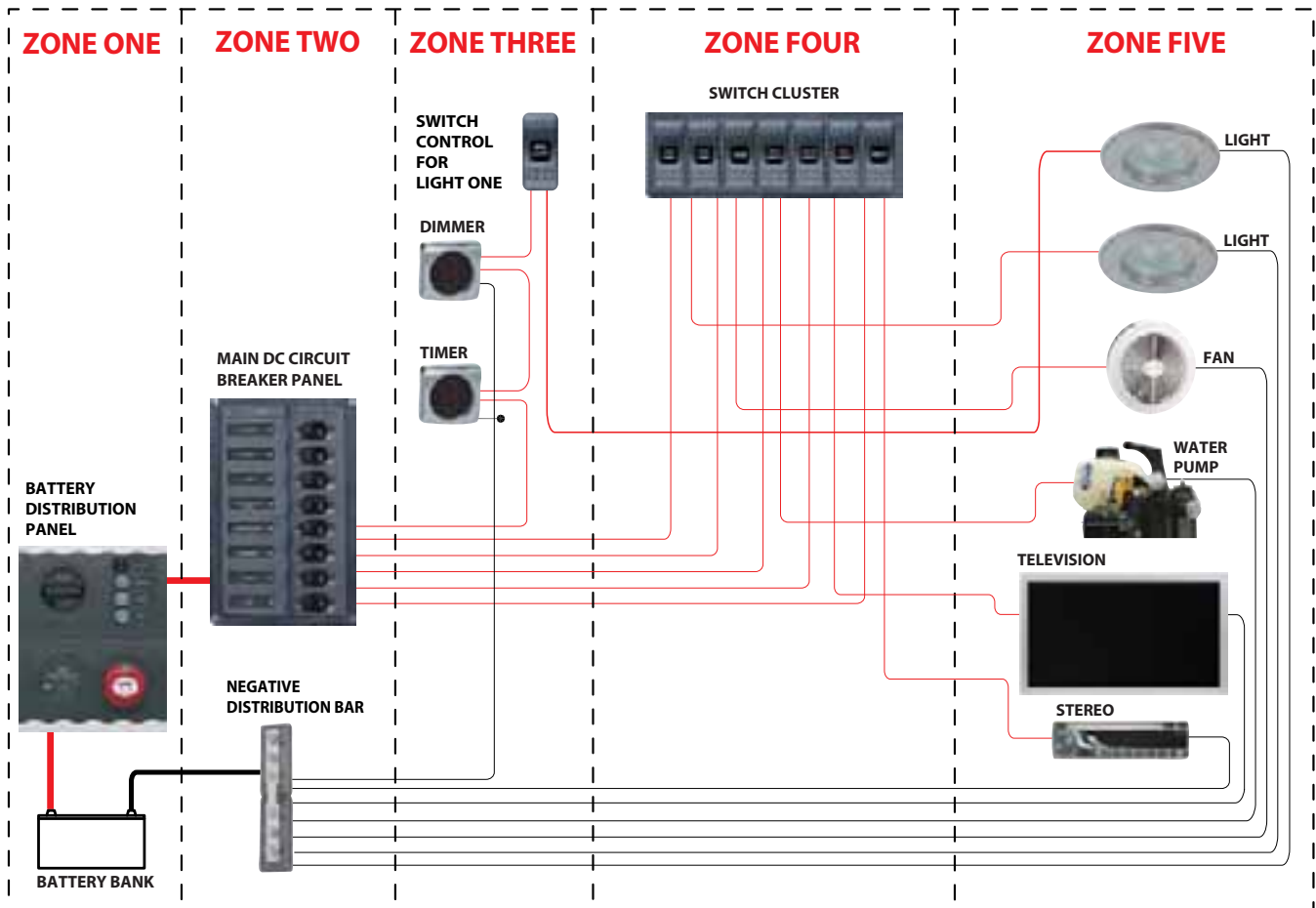
Builders recognize an immediate benefit with reductions in cable usage, harness weights and installation times. The CZone™ system also integrates many stand alone components into one intuitive system. Wiring is dramatically simplified, because the CZone™ system is designed to remove complex switching clusters and wiring runs. Integrated diagnostics ensures fault finding is simple. The CZone™ system is the digital networking system that is both cost-effective and scalable. Modules can easily be added into the system to best suit the OEM and end-users' needs.



Traditional Electrical DC Wiring

Wiring DC systems can be complex and installation time can be extensive. The larger the system, the more wire is required, which creates weight and space concerns, not to mention increased cost and complexity of design and manufacturing. Basic maintenance and trouble shooting of traditional wiring systems can be difficult to manage.

- Switch panel wiring is complicated and extremely labor intensive to install
- Cable runs are long and have multiple conductors. Switching of common circuits is complex
- Long wire runs require larger cable, adding weight, increasing cost and reducing space





Configuration

We provide the tools to help you determine the modules needed based on your specific requirements. Then, simply program with the CZone™ intuitive configuration tool.

Integration

The CZone™ system is NMEA 2000 compliant and uses the standard Micro cables and connectors. Being NMEA 2000 compliant you can have trust in the network. This also allows a single network backbone to be installed for multiple systems (CZone™ and other NMEA 2000 devices). Additionally, the CZone™ system can share certain monitoring functions with other NMEA 2000 compliant screens.

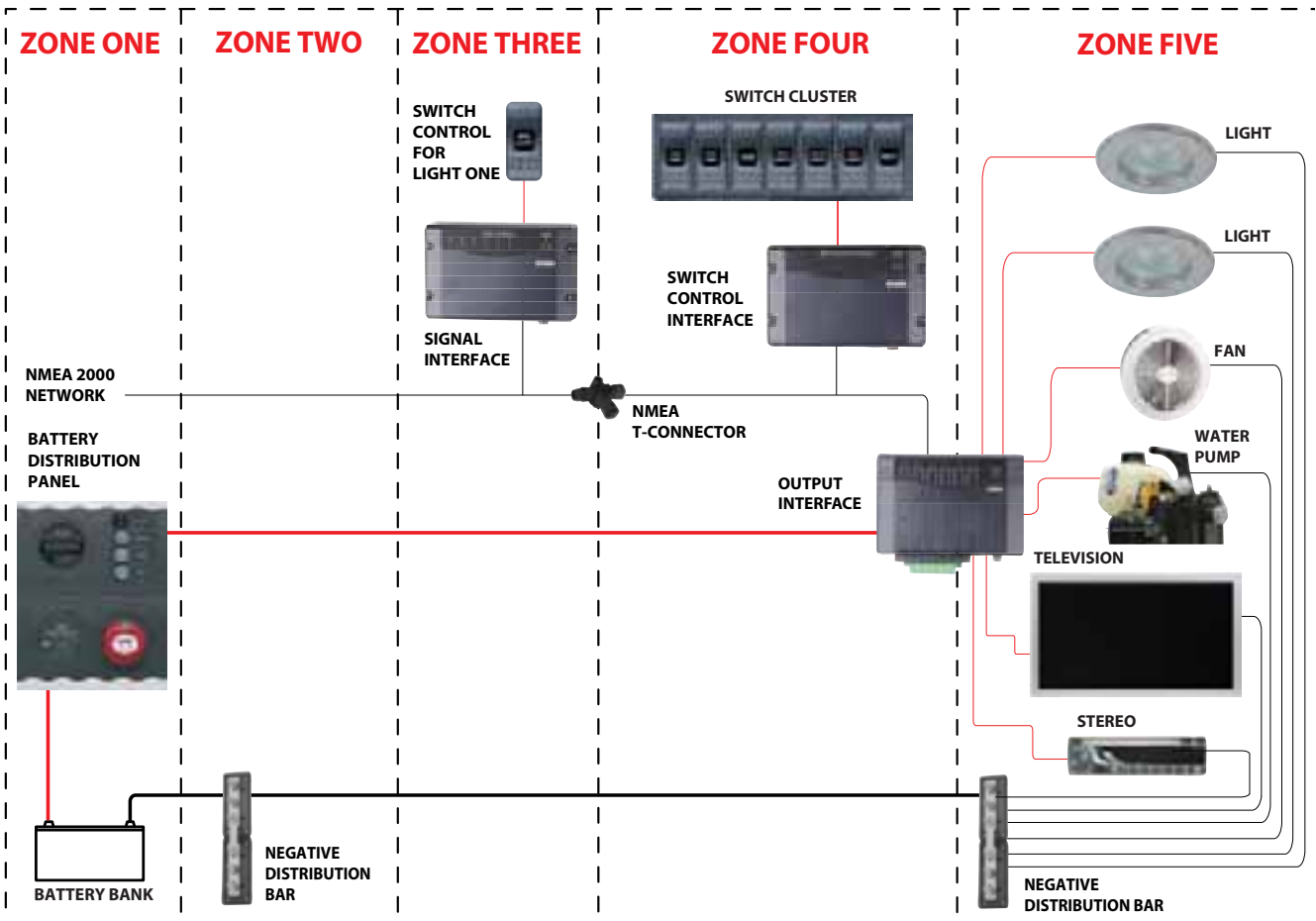
Versatility & Security

The CZone™ system, designed for 9-32V systems, features built-in timers, dimmers (including support for halogen lighting), alarms, voltage reducers and load shedding. With safety in mind, the CZone™ system features a manual bypass. Our No-Single-Failure-Point technology ensures a plug-n-play system that is designed to handle mishaps. If a module is damaged, the system will automatically program the replacement module, when it is plugged in. This means any module can be replaced without using high tech service people. Our security features allow custom configurations that can be locked.

CZONE™ DC Wiring

The CZone™ system decentralizes the DC power distribution system, locates circuit control and protection modules closer to loads to shorten cable runs and reduce the size of conductors, significantly decreasing the cost and weight of the electrical wiring harness. The system replaces complex wiring with a single data wire.

- Complex switch panel wiring removed, replaced with single data cable connection
- The grouping of multiple loads into common areas (Zones) with Output Interfaces is the key to the system
- Heavy duty battery mains cable, replaced by multiple smaller conductors





CZone™ LCD Displays

The CZone™ Displays are the interface between the CZone™ network and the user. They offer full control of circuits as well as the ability to view important on board systems information such as tank levels and power levels (for both AC and DC supplies), they also provide audible and visual alarms with systems diagnostics. The displays are extremely intuitive to use with simple controls and a menu structure that is easy to follow. The “modes of operation” feature allows the control of multiple circuits with a single push of a button. For instance, “night running” mode turns pre-selected lights on to dim levels. These modes are all user configurable. The CZone™ displays can be used to set the CZone™ system parameters for initial installation and future system maintenance (DI only).

3.5" Display Interface

- 3.5" Transflective QVGA LCD
- IpX7 water ingress Protection
- Rotary Knob for easy menu navigation
- Simple User Interface
- Power consumption @12V: 180mA (standby 130mA)
- H 105mm (4-3/32") x W 165mm (6-7/16") x D 62mm (2-13/32")

8" Touch Screen

- Screen size 8.4" (SVGA)
- IP Level IP64
- Touch screen operation
- Dimensions (WxHxD) 234mm (9.212") x 184mm (7.244") x 42mm (1.65")
- Brightness (cd/m2) 450
- Input Voltage 12VDC
- Power Consumption 20W

10" Touch Screen

- Screen size 10.4" (SVGA)
- IP Level IP64
- Dimensions (WxHxD) 276mm (10.866") x 227mm (8.93") x 50.7mm (1.99")
- Brightness (cd/m2) 400
- Input Voltage 12VDC
- Power Consumption 25W

Item #	Description
80-911-0001-00	Display Interface, w/power cable, black bezel
80-911-0002-00	Display Interface, w/power cable, grey bezel
80-911-0003-00	Display Interface only, black
80-911-0004-00	Display Interface only, grey
80-911-0064-00	CZone™ 8" Touch Screen
80-911-0065-00	CZone™ 10" Touch Screen



3.5" Display



8" Touch Screen



10" Touch Screen



CZone™ LCD Displays

The CZone™ Displays are designed with both the manufacturer and end-user in mind. The easy to use display screens put the control of all components directly at your fingertips. Multiple Display

Interfaces can be used in the same system. The scroll and click interface is simple to use in the roughest of seas or bumpiest of roads.

Power Control:

- Turn circuits on and off including timer and light dimming control
- Set modes of operation

Monitoring:

DC Power Meter:

- Displays voltages of multiple battery banks, includes low and high voltage alarms
- Displays charge and discharge (amps) of multiple battery banks
- Displays battery capacity in ampere hours and % charge/discharge, includes low ampere hour alarm
- Logging of battery minimum and maximum voltage levels
- Logging of minimum battery capacity level

AC Power Meter:

- Displays multiple line voltages (230 and 110V), includes high and low voltage alarm
- Displays AC line frequencies, includes high and low frequency alarm and AC power consumption in kW
- Logging of minimum and maximum voltage and frequency levels
- Logging of maximum AC Current

Tank Levels:

- View tank level information for multiple tanks and fluid types

Data:

- Displays standard NMEA 2000 information
- Displays temperature and pressure values

Alarms/diagnostics:

- Logging of circuit run time and on cycles
- CZone™ network status reporting
- Presents alarms for on board faults in audible and visual form (bilge pump running, smoke alarm)



Control: Breaks down the circuits into easy to identify groups for quick control, ie. to turn on fresh water pump open “pumps” group and select fresh water pump. This screen also allows the user to monitor the status of the circuit i.e. on, off, fault and current draw.



Monitoring: Allows user to easily monitor AC and DC power, tanks, data, alarms, and circuit status. Presents data in analog and digital form.



Modes: Key to the ease of operation. With one key press the user can turn on a group of circuits, without having to scroll, search for, and turn on the individual circuits that they need for operation of their vessel/vehicle. When leaving vessel or vehicle, simply press “systems off” to turn off all non-essential circuits. Entertainment mode allows preset activation of salon lights, music etc... All functions can be controlled remotely with The CZone™ system remote.



Settings: Allows OEM or technician access to the configuration (via password) of a system. No need for computer to set or change configuration settings such as circuit labels, circuit breaker sizes, etc. (DI only)



Switch Control Interface

The Switch Control Interface (SCI) provides an interface between the CZone™ network and traditional mechanical switches that manufacturers and users are familiar with. This interface converts the signal from those switches into the Control Area Network (CAN) signal needed across a digital network. No need to change existing designs.

Diagnostics are important. Fault codes are provided to quickly identify issues with the network or switches. Information is provided on the Switch Control Interface as well as sent to the CZone™ Display Interface.

The SCI simplifies your wiring, supports your existing choice of switches, protects against failures and allows for expanding installation options.

Backlighting and systems in operation lights are dimmable to ensure your night vision is not impaired by bright lights on your control area, level control of these can be linked to the backlighting level of any Display Interfaces in close proximity of the SCI.

- Single switch position can control multiple OI channels
- Attaches to switch panels via custom SCI cable
- Multiple SCI switches can control single OI channel
- Output for backlighting of switch labels (dimmable)
- Outputs systems on and function/ fault codes to systems on LED of switches (dimmable)
- H 100mm (3-29/32") x W 156mm (6-3/32") x D 42mm (1-5/8")
- IPX5 water ingress protection
- Programmable switch types
- 8 inputs per module (16 individual controls)
- Sequential button press functionality



Item #	Description
80-911-0011-00	Switch Control Interface w/seal
80-911-0012-00	Switch Control Interface only



8-Way Connector Bank for SCI Cable Assembly to Switches



Waterproof Cable Seal



NMEA 2000 Connector



Signal Interface

The Signal Interface (SI) connects the CZone™ system to your external sensors, alarms and switching devices. The SI allows intelligent, automated operation of circuits depending on the state of the input. For example, the SI can be easily programmed to allow a fluid transfer pump and an alarm to turn on simultaneously when the SI detects that a low tank level has been reached.

Connect standard switches to the SI to allow control of the CZone™ system outputs.

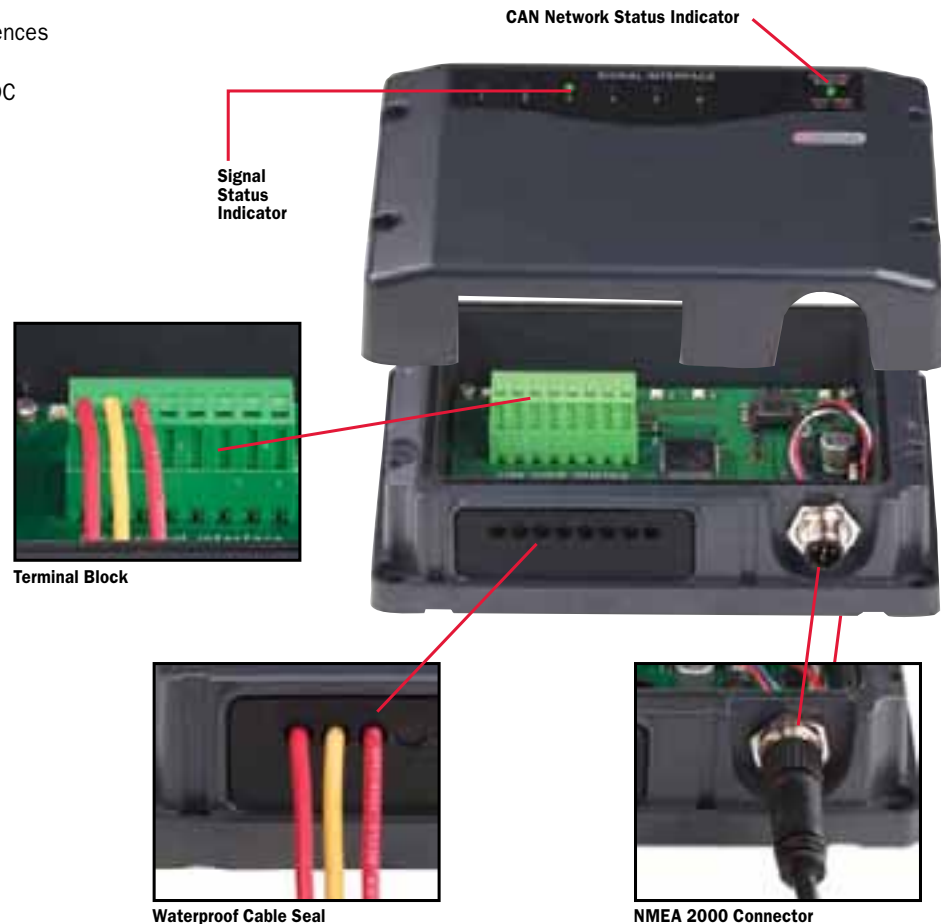
The module provides LED status indications for each input. This allows fast diagnostics while providing information back to the CZone™'s Display Interface.

- Accepts inputs from traditional switch types being used to control outputs
- Accepts inputs from switches to trigger alarm i.e. high water float switch
- Accepts inputs from industry standard tank senders (0-5V, 10-1800hm, 240-330hm)
- Accepts inputs from general voltaic or resistive signals can be used for controlling outputs or to display a physical position i.e. show a hatch is partially open
- LED status indicators for each input
- H 100mm (3-29/32") x W 156mm (6-3/32") x D 42mm (1-5/8")
- IPX5 water ingress protection
- Outputs standard NMEA 2000 sentences
- Resistive input range 0–1000 Ohms
- Voltage sensing input range 0–34VDC



Item #	Description
80-911-0013-00	Signal Interface w/seals, connector
80-911-0014-00	Signal Interface only

MARINE SYSTEMS MANAGEMENT





Meter Interface

The Meter Interface (MI) accepts inputs from external AC and DC power metering sensors. It then processes and converts the analog signals into digital strings that can then be presented, by the display, to the user, as one of several, easy-to-understand formats such as:

AC and DC voltage and amps

AC Kilowatts

DC battery capacity in amp hours and % remaining

All with user definable high and low alarms

Intelligence is built into the CZone™ system. The MI can calculate the battery capacity as ampere hours and/or percentage of charge remaining. Since the CZone™ system provides both monitoring and control for DC systems, it can be configured to turn off non-essential circuits in the event that the battery is discharged to a low level. This helps to ensure that there is enough charge left in the battery to power safety critical circuits.

AC

- 3 x AC voltage inputs (multi voltage)
- 2 x AC current inputs
- Calculates true RMS power

DC

- 3 x DC voltage inputs (multi voltage)
- 2 x DC current inputs
- Calculates battery capacity as Ampere hours and percentage charge remaining
- Resolution for current metering down to 0.1A

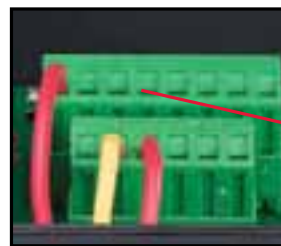
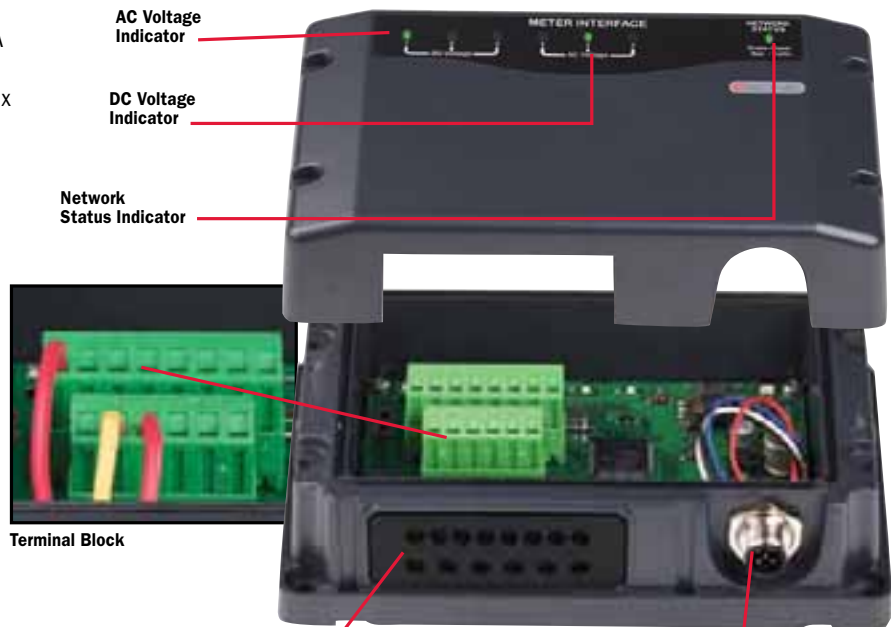
General

- H 100mm (3-29/32") x W156mm (6-3/32") x D 42mm (1-5/8")
- IPX5 water ingress protection
- Outputs standard NMEA 2000 power monitoring sentences

Note: High and low alarm levels can be set for all inputs



Item #	Description
80-911-0005-00	Meter Interface, w/seal & plug
80-911-0006-00	Meter Interface only



Terminal Block



Waterproof Cable Seal



NMEA 2000 Connector



Output Interface

The Output Interface (OI) provides an intelligent replacement for traditional circuit breaker and fuse panels. It has 6x high power, robust output channels which provide the power supply, control and fusing for a circuit as well as integrating many other built in features such as timers and dimmers.

The OI is behind the CZone™ system concept of decentralizing the power distribution, compared to traditional electrical layouts which are typically based around a large, centralised circuit breaker or fuse panel. The OI's allow the installer to move the circuit control and protection closer to the loads which significantly shortens cable runs and reduces the size of the conductors. This equates to a reduction in the cost and weight of the electrical wiring harness, ie. less copper.

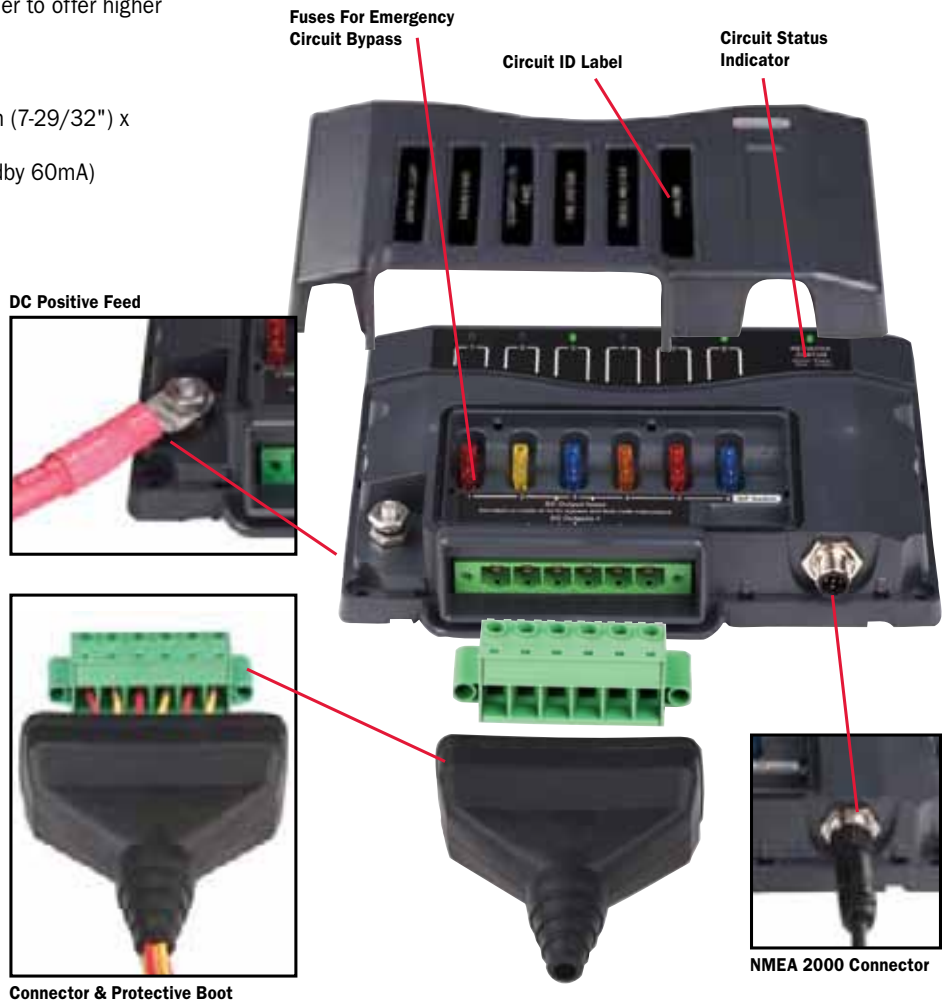
Connection to the unit is simple: a large 6 way plug allows connections to cables of up to 16mm² (6AWG) in size, or multiple smaller conductors. No need for specialized crimp terminals and expensive crimp tools to be carried for terminations to CZone™, just a blade screwdriver. A protective flexible boot offers protection to the connections from harsh environment conditions.

- 4 levels of backup fusing including manual override (as required by ABYC)
- 6 x 20 amp circuits
- Programmable software “fuse” sizes
- Multiple channels can be bridged together to offer higher current switching
- Small, non metallic, easy to install case
- IPX5 water ingress protection
- Dimensions: H 128mm (5") x W 200mm (7-29/32") x D 45mm (1-3/4")
- Power consumption @12V: 85mA (standby 60mA)



Item #	Description
80-911-0009-00	Output interface w/connector, boot
80-911-0010-00	Output interface only

MARINE SYSTEMS MANAGEMENT





Motor Output Interface

The Motor Output Interface (MOI) has an output pair for controlling DC motors which require a reversal of polarity to change the direction of their mechanical operation. For example, a DC motor for an electric window mechanism will move the window up or down depending on the polarity of the feed to the motor.

Historically the wiring and control circuitry for such installations is complicated and requires a number of individual components. Often controls for these devices are mounted remotely to the motor so wiring runs can be long. The MOI replaces all of these devices with one simple solution that can be mounted close to the motor further reducing cable runs.

The MOI can be configured to deliver a “soft start” so that motor driven devices don’t start with a sudden and abrupt motion.

The MOI also incorporates two standard output channels such as is found on the OI.

- Single motor control and two normal channels per unit, 20A per output
- Built In circuit protection
- IPX5 water ingress protection
- Dimensions: H 128mm (5") x W200mm (7-29/32") x D 45mm (1-3/4")



Item #	Description
80-911-0007-00	Motor Output Interface w/ connector, boot
80-911-0008-00	Motor Output Interface only

MARINE SYSTEMS MANAGEMENT



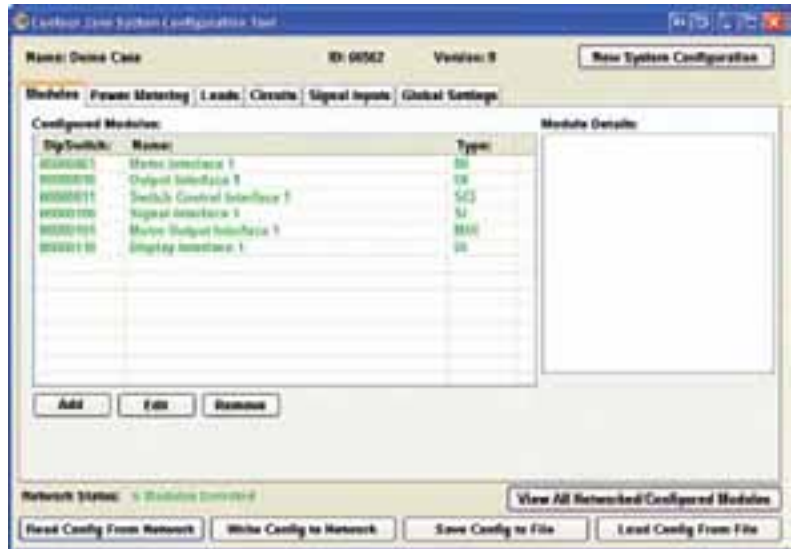
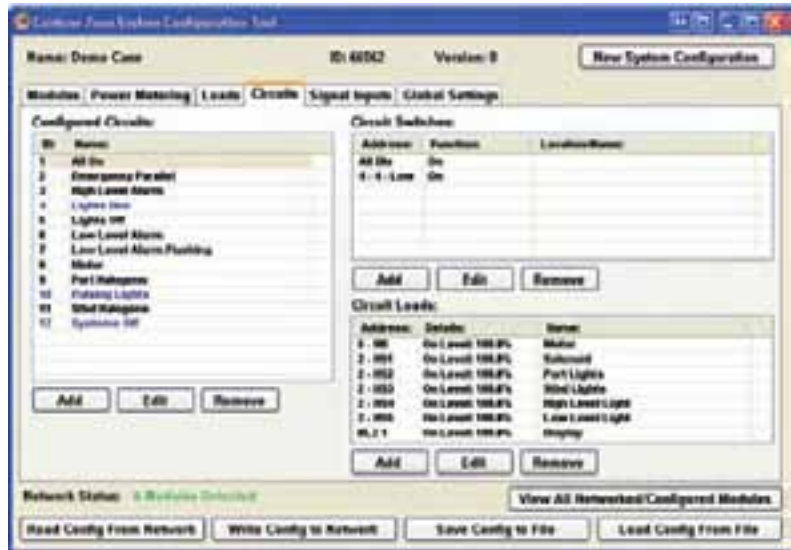


Configuration Made Easy

Historically, generating a configuration for and programming a system is a chore that requires a significant amount of training. The configuration tool of the CZone™ system offers simple, straightforward programming that is easy to learn and to use. The CZone™ system Configuration Tool allows the manufacturer to set up programming parameters on a standard PC, (use USB CAN Adapter #80-911-0044-00) upload a saved configuration into the CZone™ network and simultaneously program every interface on-board. Changes and customizations can also be made from the Display Interface and downloaded back to the PC overriding the master configuration. The master template file is now ready to go and can be used on multiple vessels or vehicles during manufacturing.



MARINE SYSTEMS MANAGEMENT



CZONE™ DIGITAL CONTROL ACCESSORIES



MARINE SYSTEMS MANAGEMENT



NEW Ext. Cable
NMEA 2000 network

80-911-0024-00	16 ft 5 meters
80-911-0025-00	32 ft 10 meters
80-911-0026-00	1.6 ft .5 meters
80-911-0027-00	6.5 ft 2 meters



Power Cable for Display Interface, 2 Pin, 2 meters

80-911-0032-00	6.5 ft 2 meters
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NEW Power Cable
NMEA 2000 network

80-911-0028-00	3.2 ft 1 meter
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NEW Single Tee Connector
NMEA 2000 network

80-911-0029-00



NEW 90° Elbow Connector
NMEA 2000 network

80-911-0046-00



NEW Single Tee Connector
w/0.5m (19.5")
extension cable
NMEA 2000 network

80-911-0049-00



NEW 2 Way Tee Connector
NMEA 2000 network

80-911-0047-00



NEW 4 Way Tee Connector
NMEA 2000 network

80-911-0048-00



NEW Terminating Resistors
NMEA 2000 network

80-911-0030-00	Female
80-911-0031-00	Male

NEW Banking Caps
NMEA 2000 network



Male Cap
80-911-0050-00



Female Cap
80-911-0051-00



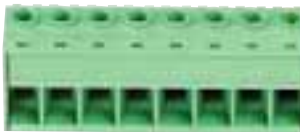
Cable Gland for SCI Silicon
80-911-0035-00



Cable Gland SI, Blk Silicon
80-911-0036-00



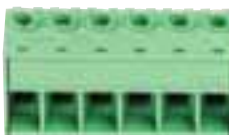
Cable Gland, MI, Blk Silicon
80-911-0033-00



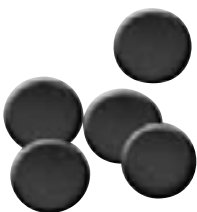
Terminal Block SI/MI, 8 Way
80-911-0043-00



Terminal Block OI/MI, 6 Way
80-911-0041-00



Terminal Block for MI, 6 Way
80-911-0042-00



Hole Plugs, Blk

80-911-0016-00	3.2mm
80-911-0017-00	5mm

3.2mm for MI and SI cable glands
5mm for SCI cable glands



NEW Through Bulkhead Adaptor
NMEA 2000 network
80-911-0052-00



NEW Female Field Serviceable Connector
NMEA 2000 network
80-911-0053-00



NEW Male Field Serviceable Connector
NMEA 2000 network
80-911-0054-00



Seal Boot for OI/MOI 6-Wire, Blk Silicon
80-911-0034-00

CZONE™ DIGITAL CONTROL ACCESSORIES



MARINE SYSTEMS MANAGEMENT

CZone™ Wireless Remote Kit

- Simple to set up, wireless remote control
- Buttons are configurable for momentary on or latching control of circuits
- 80m (250 ft) operating range
- Rolling code

80-911-0045-00



Custom Switches

- Red systems in operation and backlighting LED's

80-911-0037-00	ON/OFF
80-911-0038-00	mom ON/OFF
80-911-0039-00	ON/OFF/ON
80-911-0040-00	mom ON/OFF/mom ON

USB CAN Adapter

- Connects PC to the CZone™ network for configuration and system set up

80-911-0044-00



Cable Assembly, SCI to suit switches above

80-911-0018-00	.5 meter
80-911-0019-00	1 meter
80-911-0020-00	2 meter
80-911-0021-00	3 meter
80-911-0022-00	4 meter
80-911-0023-00	5 meter



80-911-0062-00

NEW Push Buttons

- Momentary and latched actuation options available
- Blue and red circuit status indication LED options
- 19mm mounting hole
- IP 67 environmental protection
- Stainless Steel components

For use with CZone™ systems only



80-911-0061-00

80-911-0060-00	Push Button momentary (ON)OFF, Red LED
80-911-0063-00	Push Button momentary ON/OFF, Red LED
80-911-0062-00	Push Button momentary (ON)OFF, Blue LED
80-911-0061-00	Push Button momentary ON/OFF, Blue LED



NMEA 2000 Components



NEW CZone™ Network Bridge Interface

- For isolating sections of an NMEA 2000 network to decrease standby current draw
- Isolation when bridging between two CAN networks, (eg connecting CZone™ to Simrad Simnet)
- For expansion of the NMEA 2000 network when the maximum node limit (node = any device connected to the NMEA 2000 network) for the network has been reached
- Once fitted, a further 40 nodes can be added

80-911-0057-00



NEW Surge Protection Module

Protect your electronics from becoming damaged by harmful high voltage spikes. When fitted to the battery supply these modules look for sudden increases in voltage then switch into protection mode to absorb and suppress the high energy spike.

80-707-00004-00 Surge Protection Module 12v DC

80-707-00005-00 Surge Protection Module 24v DC

80-707-0004-00



AC Transducer

- The AC-VSEN-4 includes 3 voltage transformers for up to 3 voltage inputs.
- Dimensions: 69 x 140 x 50 mm (2.75 x 5.5 x 2 in)

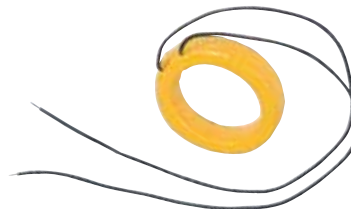
AC-VSEN-4



Current Transformer

- Maximum current 150A AC
- Dimensions: 37.5 x 39.2 x 13.7 mm (1.5 x 1.55 x .55 in)
- Hole size: 12 mm (0.5")

CT-10-3



Heavy Duty Current Transformer

- Maximum current 150A AC
- CT-HD is available for systems with large mains cables, too large for CT-10-3 (ordered separately).
- CT-HD dimensions: Ø 47 x 10.5 mm (Ø 1.85 x 0.4 in)
- Hole size: 32 mm (1.25 in)

CT-HD



DC Current Shunt

- 450A / 50 mV shunt supplied with 80-600-0021-00
- 83L x 45W x 44H mm (3.25L x 2.8W x 2.75H in)

LB-450-50

CIRCUIT BREAKER PANELS

DC No Meters

- Red systems on LED
- Marine grade powder coated aluminium
- ABYC standard voltage indication
- Green LED backlit labels
- Airpax® Circuit Breakers
- Stylish clip on contour fascia
- Label sets and buss bar supplied with panels; for additional labels see pages 204–207

MARINE SYSTEMS MANAGEMENT



DC Control Panels - No Meters, 12 V										
Item #	mm		Label Sheet	CB's - Single Pole						
	H x W x 65	H x W x 2.5		5	10	15	20	25	30	Neg Bus
900-DC	115 x 127	4.5 x 5	1	1	2	1				6 way
901H	115 x 239	4.5 x 9.75	1	2	2	3	1			6 way
901V	200 x 127	7.9 x 5	1	2	2	3	1			6 way
902NMH	115 x 351	4.5 x 13.9	1	3	4	4		1		6 way
902NMV	285 x 127	11.25 x 5	1	3	4	4		1		6 way
904NM	200 x 239	7.9 x 9.75	1	4	5	5	1	1		12 way
904NMH	115 x 463	4.5 x 18.25	1	4	5	5	1	1		12 way
905NM	200 x 351	7.9 x 13.9	1 - 3	5	8	8	1	1	1	12 way
905NMV	285 x 239	11.25 x 9.75	1 - 3	5	8	8	1	1	1	12 way
906NMH	200 x 463	7.9 x 18.25	1 - 4	7	11	11	1	1	1	24 way
906NMV	370 x 239	14.6 x 9.75	1 - 4	7	11	11	1	1	1	24 way
NC36NM	285 x 351	11.25 x 13.9	1 - 4, 6	8	12	12	2	1	1	24 way

Cutout size - 10 mm (3/8 in) inside all external edges
 All panels available in 12 or 24 V configuration. All part numbers shown are 12 V backlighting. If 24 V is required, please specify when ordering by adding -24V to part number.

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CIRCUIT BREAKER PANELS



904NMH



905NMV



906NMH



905NM



906NMV



NC36NM

CIRCUIT BREAKER PANELS

DC Analog/Digital Meters

- Ammeters available in other scales (page 169).
- All panels are available with either Analog or Digital meters
- Label set and bus bar supplied with panel; for additional label sets see pages 203-204

MARINE SYSTEMS MANAGEMENT



900-AM



902-AM



904-AM



905V-DCSM



905-AM



903-DCSM



901V-DCSM



902V-DCSM

DC Control Panels - Digital Meters										
Item #	mm		Label Sheet	CB's - Single Pole					Neg Bus	
	L x W x 65	H x W x 2.5		5	10	15	20	25		30
900V-DCSM	200 x 127	7.9 x 5	1	1	2	1			6 way	
901V-DCSM	295 x 127	11.6 x 5	1	2	2	3	1		6 way	
902-DCSM	200 x 239	7.1 x 9.75	1	3	4	4		1	6 way	
902V-DCSM	380 x 127	15 x 5	1	3	4	4		1	6 way	
903-DCSM	200 x 351	7.9 x 9.75	1-3	5	6	7	1	1	12 way	
904-DCSM	295 x 239	11.6 x 9.75	1-2	4	5	5	1	1	12 way	
905-DCSM	295 x 351	11.6 x 13.9	1-3	5	8	8	1	1	1	12 way
905V-DCSM	380 x 239	15 x 9.75	1-3	5	8	8	1	1	1	12 way
906-DCSM	295 x 463	11.6 x 18.25	1-4	7	11	11	1	1	1	24 way
906V-DCSM	455 x 239	18 x 9.75	1-4	7	11	11	1	1	1	24 way



906-AM



906V-AM



907-AM

DC Control Panels - Analog Meters										
Item #	mm H x W x 65	in H x W x 2.5	Label Sheet	CB's - Single Pole						Neg Bus
				5	10	15	20	25	30	
900-AM	200 x 127	7.9 x 5	1	1	2	1				6 way
901V-AM	295 x 127	11.6 x 5	1	2	2	3	1			6 way
902-AM	200 x 239	7.9 x 9.75	1	3	4	4		1		6 way
902V-AM	380 x 127	15 x 5	1	3	4	4		1		6 way
903-AM	200 x 351	7.9 x 9.75	1-3	5	6	7	1		1	12 way
904-AM	295 x 239	11.6 x 9.75	1-2	4	5	5	1	1		12 way
905-AM	295 x 351	11.6 x 13.9	1-3	5	8	8	1	1	1	12 way
905V-AM	380 x 239	15 x 9.75	1-3	5	8	8	1	1	1	12 way
906-AM	295 x 463	11.6 x 18.25	1-4	7	11	11	1	1	1	24 way
906V-AM	455 x 239	18 x 9.75	1-4	7	11	11	1	1	1	12 way
907-AM	380 x 463	15 x 18.25	1-5	12	15	15	3	1	2	2 x 24 way

All analog panels supplied with one shunt, extra shunts ordered separately. Digital panels supplied with 450 A-50mV shunt.
Cutout size - 10 mm (3/8 in) inside all external edges
All panels available in 12 or 24 V configuration. All part numbers shown are 12 V backlighting. If 24 V is required, please specify when ordering by adding -24V to part number.

CIRCUIT BREAKER PANELS

Cruiser Series

- Mimic panel for quick reference of systems in operation
- Blank space for addition of extra meter
- Digital or analog readouts



NC36L-DCSM



NC32Y-DCSM

DC Control Panels - Cruiser Series, 24 Way, 12 V										
Item #	mm H x W x 65	in H x W x 2.5	Label Sheet	CB's - Single Pole						Meter
				5	10	15	20	25	30	
NC32Y-DCSM	380 x 351	15 x 13.9	1 - 4, 6	7	11	11	1	1	1	Digital
NC36L-DCSM	380 x 351	15 x 13.9	1 - 4, 6	8	12	12	2	1	1	Digital
NC32Y-AM	380 x 351	15 x 13.9	1 - 4, 6	7	11	11	1	1	1	Analog
NC36L-AM	380 x 351	15 x 13.9	1 - 4, 6	8	12	12	2	1	1	Analog

All analog panels supplied with one shunt, extra shunts ordered separately. Digital panels supplied with 450A – 50mV shunt. Cutout size – 10 mm (3/8 in) inside all external edges. All panels available in 12 or 24 V configuration. If 24 V is required, please specify when ordering by adding -24V to part number.

Double Pole Panel

- Double pole panels available in all panel sizes.
- Double pole CBs use twice the space of single pole breakers; an 8-way panel can become a 4-way
- AC or DC versions available
- Single toggle



DP PANEL

Millennium Series

- Compact sizing
- Battery monitoring using BEP™ multifunction meter (voltage on 3 battery banks, charge, discharge amps and amp-hours remaining on main battery bank)



M28-DCSM



M32-DCSM



M44-DCSM



M44H-DCSM



M56-DCSM

MARINE SYSTEMS MANAGEMENT

DC Control Panels - Millennium Range, 24 Way, 12 V										
Item #	mm	in	Label Sheet	CB's - Single Pole					Meter	
	H x W x 65	H x W x 2.5		5	10	15	20	25		30
M28-DCSM	370 x 239	14.6 x 9.75	1 - 4	8	8	8	2	2	Digital	
M32-DCSM	285 x 351	11.25 x 13.9	1 - 4, 6	7	11	11	1	1	1	Digital
M44-DCSM	370 x 351	14.6 x 13.9	1 - 4, 6	10	14	14	3	1	2	Digital
M44H-DCSM	285 x 463	11.25 x 18.25	1 - 4, 6	10	14	14	3	1	2	Digital
M56-DCSM	455 x 351	18 x 13.9	1 - 4, 6	12	18	18	4	2	2	Digital

AC CIRCUIT BREAKER PANELS

No Meters

- Ideal for AC shore power installations and on board inverter installations.

MARINE SYSTEMS MANAGEMENT



900-ACM6W



900-AC1



AIRPAX

Reverse Polarity Auto Trip Breaker

Now standard on all 230 V, 50 Hz panels (Euro and Asia-Pacific).

This will automatically trip when it detects reverse polarity.

CBS-20A-DP-TC230



900-ACM2W



900-ACCH

For standard twin input systems, eg: one shore power and one genset input.

AC Control Panels - No Meters

Item #	Volts	mm H x W x 65	in H x W x 2.5	Label Sheet	CB's - Single Pole						CB's - Double Pole					Neg Bus
					5	10	15	20	25	30	20	25	30	50	80	
900-ACM2-AM	230	115 x 239	4.5 x 9.75	5	2	2					2					IS-6MM-2
900-AC1-110V	110	115 x 239	4.5 x 9.75	5		2	2					2				IS-6MM-2
900-ACM2W	230	115 x 127	4.5 x 5	5	2						1					IS-6MM-2
900-ACM2W-110V	110	115 x 127	4.5 x 5	5		2						1				IS-6MM-2
900-ACM6W	230	200 x 127	7.9 x 5	5	2	3	1				1					IS-6MM-2
900-ACM6W-110V	110	200 x 127	7.9 x 5	5		3	2	1				1				IS-6MM-2
900-ACCH	230	115 x 127	7.9 x 5	5							2					IS-6MM-2
900-ACCH-110V	110	115 x 127	7.9 x 5	5								2				IS-6MM-2

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AC CIRCUIT BREAKER PANELS

Analog/Digital Meters

- All available in 110 V/60 Hz or 230 V/50 Hz.
- All supplied with transducers
- Reverse polarity indicator
- Double pole mains input CBs with side lockout
- Digital meter shows volts, amps and frequency
- LED wired to indicate live panel with mains breaker either on or off
- AC source selector ensures no cross over between AC inputs (ship or shore power)
- AC voltage/frequency label to comply with ABYC Standards

Reverse polarity auto trip breakers are used as standard for shore power mains inputs (230 V AC panels only)



900-AC2V-ACSM



900-AC4-ACSM



900-AC3-ACSM



900-ACM2-AM



900-ACM6V-AM



900-AC2H-AM

MARINE SYSTEMS MANAGEMENT

AC Control Panels - Analog Meters

Item #	Volts	mm		Label Sheet	CB's – Single Pole						CB's – Double Pole					Neg Bus
		H x W x 65	H x W x 2.5		5	10	15	20	25	30	20	25	30	50	80	
900-ACM2-AM	230	200 x 127	7.9 x 5	5	2							2				IS-6MM-2
900-ACM2-AM-110	110	200 x 127	7.9 x 5	5		2							1			IS-6MM-2
900-ACM6V-AM	230	295 x 127	11.6 x 5	5		2	3	1				1				IS-6MM-2
900-ACM6V-AM-110	110	295 x 127	11.6 x 5	5	1	3	3	1				1	1			IS-6MM-2
900-AC2H-AM	230	200 x 239	7.9 x 9.75	5	1	3	3	1				1	1			2 x 6 way
900-AC2H-AM-110	110	200 x 239	7.9 x 9.75	5		2	3	2	1				1	1		2 x 6 way
900-AC2V-AM	230	380 x 127	15 x 5	5	1	3	3	1				1	1			2 x 6 way
900-AC2V-AM-110	110	380 x 127	15 x 5	5	1	2	3	2	1				1	1		2 x 6 way
900-AC3-AM	230	200 x 351	7.9 x 13.9	5	1	4	5	1	1			1	1			2 x 12 way
900-AC3-AM-110	110	200 x 351	7.9 x 13.9	5	1	3	4	3	1	1			1	1		2 x 12 way

AC Control Panels - Digital Meters

900-AC2H-ACSM	230	200 x 239	7.9 x 9.75	5	1	3	3	1				1	1			2 x 6 way
900-AC2H-ACSM-110	110	200 x 239	7.9 x 9.75	5		2	3	2	1				1	1		2 x 6 way
900-AC2V-ACSM	230	380 x 127	15 x 5	5	1	3	3	1				1	1			2 x 6 way
900-AC2V-ACSM-110	110	380 x 127	15 x 5	5	1	2	3	2	1				1	1		2 x 6 way
900-AC3-ACSM	230	200 x 351	7.9 x 13.9	5	1	4	5	1	1			1	1			2 x 12 way
900-AC3-ACSM-110	110	200 x 351	7.9 x 13.9	5	1	3	4	3	1	1			1			2 x 6 way
900-AC4-ACSM	230	200 x 351	7.9 x 13.9	5	1	5	7	2	1			1		1		2 x 6 way
900-AC4-ACSM-110	110	200 x 351	7.9 x 13.9	5		5	8	2	1				1	1		2 x 6 way

Cutout size – 10 mm (3/8 in) inside all external edges. All panels available in 12 or 24 V backlighting configuration.

AC CIRCUIT BREAKER PANELS

Back Covers

- Designed to insulate exposed rear terminals.
- Flame retardant PVC in two styles.
- Flange Mount: for access to control panel back when mounted in place. Attaches to the rear of the same mounting surface as the panel.
- Panel Mount: for access only when panel is removed. Supplied with mounting pedestals.

AC Back Panel Covers				
Item #	Mount type	Cover Description	mm	
			L x W x 90	L x W x 3.5
BC-FM1	Flange	1 column 8-12 CBs + meter	380 x 127	15 x 5
BC-FM2	Flange	2 column 8-12 CBs + meter	380 x 239	15 x 9.4
BC-FM3	Flange	1 column 8-12 CBs	285 x 127	15 x 5
BC-FM4	Flange	2 column 8-12 CBs	285 x 239	15 x 9.4
BC-PM1	Panel	1 column 8-12 CBs + meter	360 x 107	15 x 4.2
BC-PM2	Panel	2 column 8-12 CBs + meter	360 x 219	15 x 8.6



BC-PM1



BC-FM1



BC-FM2



BC-PM2

RCD Panels

We supply two Residual Current Device (RCD) ratings (16 & 32 A). Due to the difference in style of the RCD's, these panels are made to be mounted separately from the main AC panel.

RCD Panels				
Item #	Rating (A)	mm		
		H x W x 65	in	
		H x W x 2.5		
900-RCD-16A	16	115 x 127	4.5 x 5	
900-RCD-1X16-32A	32	115 x 127	4.5 x 5	
900-RCD-2X16A	16x2	115 x 127	4.5 x 5	
900-RCD-2X32A	32x2	115 x 127	4.5 x 5	
900-RCD-32A	16x1, + 32x1	115 x 127	4.5 x 5	

Cutout size - 10 mm (3/8 in) inside all external edges



900-RCD-16A



900-RCD-2X16A

CB Options

CB Options		
Item #	Rating (A)	
	Rating (A)	Type
RCD16A30MA	16	Residual CB Overload
RCD32A30MA	32	Residual CB Overload
RCD63A30MA	63	Residual CB Overload
MCB16A	16	Miniature CB
MCB32A	32	Miniature CB
MCB63A	63	Miniature CB



RCD
(see chart)



MCB
(see chart)



MCB-3WENC

Dimensions:
160 mm (6.3") H
x 92 mm (3.6") W
x 90 mm (3.5") D

For installations in Australia and New Zealand to comply with AS/NZ3004 an approved double pole mains circuit breaker must be mounted upstream of the BEP™ Control Panel in the form of a RCD or MCB. The MCB-3WENC is an enclosure with IP65 rating. The enclosure and CB is ordered separately. The RCD panels above can also be used for this application, however they would have to be mounted in a dry protected position on the vessel.

AIRPAX

IEG Magnetic CBs

IEG magnetic circuit breakers provide reliable circuit protection and accurate circuit control for equipment in the international market place.

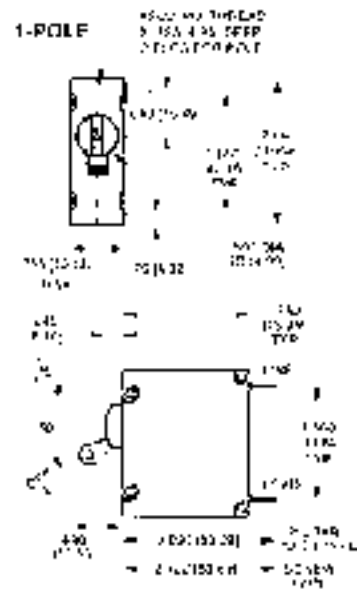
Designed using the latest in sensitive hydraulic magnetic technology, the IEG line adapts itself to many applications and environments. They are ideal for marine applications, data processing and business machines, as well as medical instrumentation, broadcast equipment, vending and amusement machines, military applications and wherever precision operation is required. Temperature differences which affect fuses and other thermal devices are not a concern. One important feature of this breaker line is a 'trip free' action, which means the circuit will trip in the presence of an overload even though the handle is held in the ON position. The delay mechanism senses the fault and the contacts open.

- Spacing compliance: IEC specification 601, 950; VDE 0804, 0805
- UL recognized; CSA certified; VDE 0660 approved; Part 101 & CE compliant
- Available in single or double pole; triple pole available on special orders
- **NOTE:** Part numbers shown are all BEP product specific and have no reference to the Airpax® part number system.



CBS-50A-SP-IG

CBS-50A-DP



Single Toggle 1-2 & 3 Pole Small Frame					
Single pole	Rating (A)	Double pole	Rating (A)	Triple pole / Rating (A)	Rating (A)
CBS-5A-SP	5	CBS-10A-DP	10	CBS-50A-TP / 50	50
CBS-10A-SP	10	CBS-15A-DP	15	D/Pole trip coil	Volts (V)
CBS-15A-SP	15	CBS-20A-DP	20	CBS-15A-DP-TC230	230
CBS-20A-SP	20	CBS-25A-DP	25	CBS-20A-DP-TC230	230
CBS-25A-SP	25	CBS-30A-DP	30	CBS-30A-DP-TC230	230
CBS-30A-SP	30	CBS-40A-DP	40	CBS-50A-DP-TC230	230
CBS-40A-SP	40	CBS-50A-DP	50		
CBS-50A-SP-IG	50				

Handle Lock

Image shows "handle lock" as used in all our battery management panels for essential CBs to prevent accidental or unintended actuation of essential circuits CB's from either the "on" or "off" position. (ordered separately)



121-710-1101/1

IUL Magnetic CBs

Provide reliable circuit protection and accurate circuit control for equipment in the international market place. BEP uses the IUL range of circuit breakers where current requirements exceed 50 A and are within 100 A. Available in single and double pole with triple pole available on special orders.

Single Toggle 1-2 & 3 Pole Large Frame					
Single pole	Rating (A)	Double pole	Rating (A)	Triple pole	Rating (A)
CBL-50A-SP	50	CBL-50A-DP	50	CBL-80A-TP	80
CBL-60A-SP	60	CBL-60A-DP	60	CBL-100A-TP	100
CBL-75A-SP	75	CBL-75A-DP	75		
CBL-100A-SP	100	CBL-100A-DP	100		



CBL-50A-SP

CBL-100A-DP

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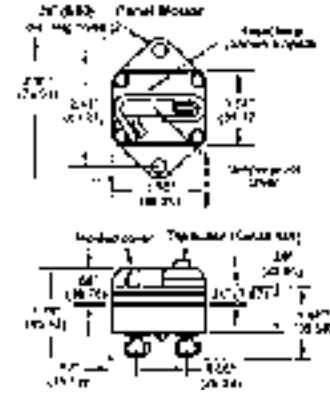
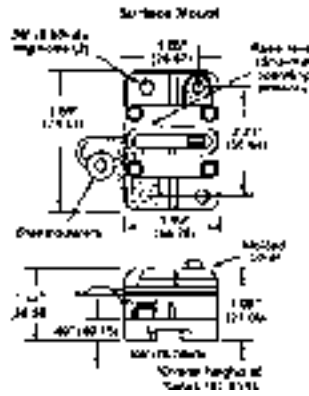
CIRCUIT BREAKERS



184150P-01-1



185100F-01-1

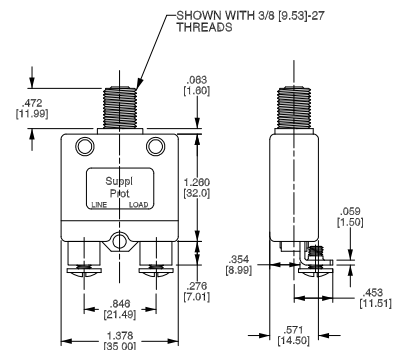


BEP™ Heavy Duty Single Pole Thermal Type Breakers

Ratings:	50 A to 150 A; 30 V DC, 3000 A interrupt capacity
Operating Temperature:	-25°F (-32°C) to 180°F (82°C)
Storage Temperature:	-30°F (-34°C) to 300°F (149°C)
Applications:	Auxiliary and accessory circuits – trucks, buses, RVs and marine applications, battery chargers and DC audio systems. Series 181, 184 & 185 are sealed for engine compartment and bilge area applications.
Housing:	Thermoset plastic; UL rated 94V0; 311°F (155°C). Stud insulators are provided on covered units with F (Surface Mount) bases
Mounting:	Panel or surface
Indicator:	Series 184 & 185 have a unique reset mechanism providing visible indication of tripped condition
Approvals:	Complies with SAE J1625

Switchable Reset

Item #	Pack Type	Rating (A)	(P)anel mount / (F)lush mount
185050P-01-1	bulk	50	P
185070P-01-1	bulk	70	P
185080P-01-1	bulk	80	P
185100P-01-1	bulk	100	P
185135P-01-1	bulk	135	P
185150P-01-1	bulk	150	P
185050F-01-1	bulk	50	F
185080F-01-1	bulk	80	F
185100F-01-1	bulk	100	F
185150F-01-1	bulk	150	F
185030F-01-1	bulk	30	F
185040F-01-1	bulk	40	F
185040P-01-1	bulk	40	P
185060P-01-1	bulk	60	P
185120P-01-1	bulk	120	P
185050F/DSP	display	50	F
185080F/DSP	display	80	F



CLB Series Push Reset Thermal Circuit Breakers

Ratings:	5—40 A; 200 A @ 250 V AC Interrupt Capacity
Operating Temperature:	-10—60° C
Interrupting capacity:	2500 A
Resettable overload capacity:	10 x rated current
Approvals:	UL, CUL, TUV, CE, UL1500ISO8846 for ignition protection/marine

Boot required to install breaker.



CLB-BOOT



CLB-20

Push To Reset

Item #	Pack Type	Rating (A)
CLB-05	bulk	5
CLB-10	bulk	10
CLB-15	bulk	15
CLB-20	bulk	20
CLB-30	bulk	30
CLB-40	bulk	40
CLB-BOOT	bulk	BOOT
CLB-05/DSP	display	5
CLB-10/DSP	display	10
CLB-15/DSP	display	15
CLB-25/DSP	display	25
CLB-40/DSP	display	40
CLB-BOOT/DSP	display	BOOT

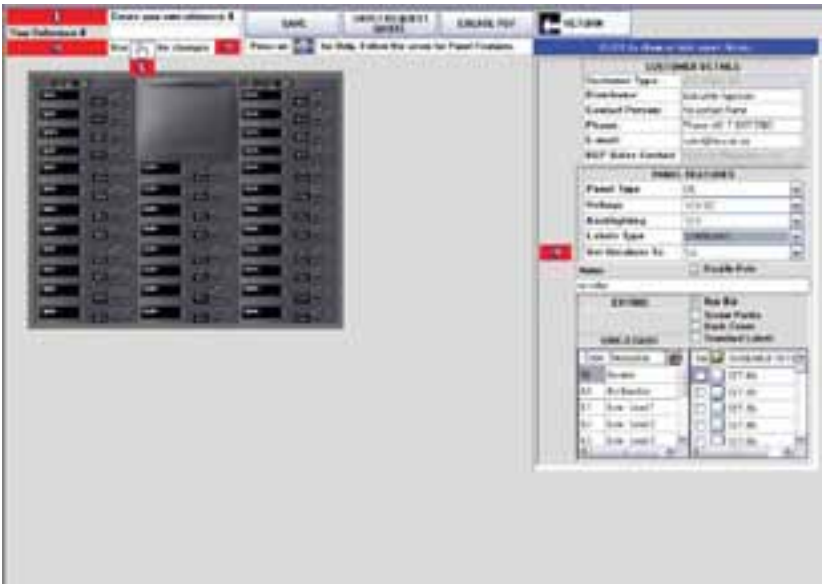
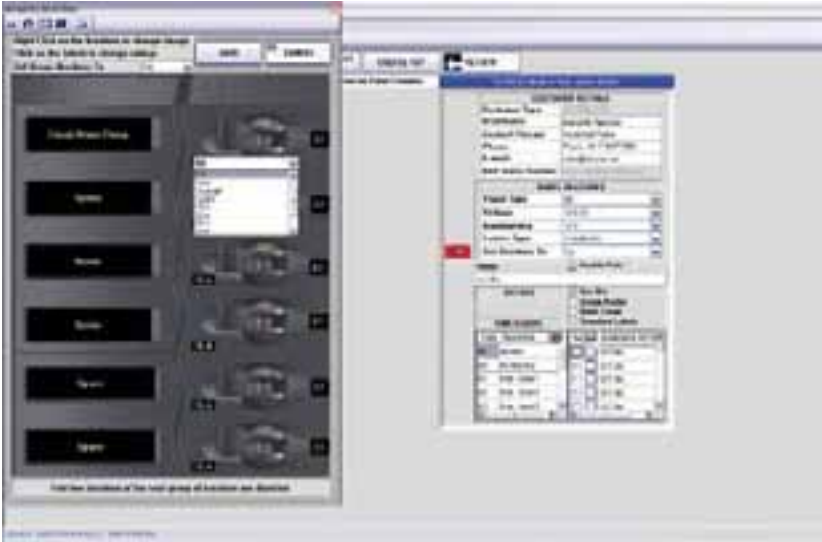
Panel Configurator

The BEP™ Panel Configurator is a software program designed for do-it-yourself creation and modification of standard circuit breaker panels. The user friendly software is available to both account and non-account holders.

Designed for the creation and modification of standard panels, the software provides the end user prompt turn around for panel requirements. Additionally, the built-in communication tool allows

for customer created drawings to be transferred with ease to BEP customer service for quotation. The use of the software greatly streamlines the entire panel production process – reducing design and modification time, decreasing correspondence and cutting lead time.

To learn more and to download the software, go to bepmarine.com.



MONITORING

NEW DC Systems Monitor (DCSM)

Designed and manufactured by BEP, these state of the art full color monitors are made to meet the systems monitoring requirements of today's modern vessel and recreational vehicle. Complex AC and DC electrical installations onboard are becoming more common place. Additionally the increase in tank monitoring requirements for fuel, fresh, grey and black water, accurate monitoring of these systems is essential.

The DCSM and ACSM displays feature clear, extra large type face. This allows for more detailed on-screen information and increased clarity. The screen has backlighting for easy night time viewing. See sample screens below.

80-600-0021-00

(DCSM including 1x shunt and cable)

80-600-0022-00

(DCSM excluding shunt)



Specifications:

- 2.8" Color QVGA LCD
- Input voltage 8-32VDC
- Dimensions: Width 90mm x Height 100mm
- Backlit keypad

Monitors:

- Charge/discharge amps for two banks
- Capacity remaining in A/h and %
- Battery condition
- Tank fluid level
- Circuit status

Features:

- 8 Generic, user configurable inputs
- Programmable high/low audio/visual alarms for volts, amps and tank levels
- Backlit keypad and dimmable screen
- Can be panel or surface mounted



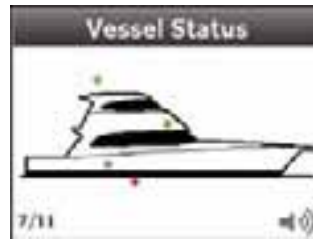
DC Power Meter

- Displays voltages of multiple battery banks (0-32VDC)
- Displays charge and discharge (amps) of 2 battery banks
- Displays battery capacity in amp hours
- High/Low level alarms



Display Type

- Configure the DCSM to show the data in analog, digital and graphic form



Circuit Status

- View the status of important circuits (on/off) a
- In graphic and numeric form



Tank Level

- View tank level information for multiple tanks in numeric and graphic forms. Resettable when leaving boat



600-DCM-5M

Installation Cable Kit

- 2 core screened cable in 2 lengths pre-terminated

600-DCM-5M 5 m (16.45") cable

600-DCM-10M 10 m (32.9") cable



Shunt

- 450A / 50 mV shunt supplied with 80-600-0021-00
- 83L x 45W x 44H mm (3.25L x 2.8W x 2.75H in)

LB-450-50

NEW AC Systems Monitor (ACSM)



Specifications:

- 2.8" Color QVGA LCD
- Input voltage 8-32VDC
- Dimensions: Width 90mm x Height 100mm
- Backlit keypad

Monitors:

- AC volts, amps and frequency

Features:

- 3 user configurable inputs
- Displays data in analog, digital and graphic forms
- Output for load shedding
- Programmable high/low audio/visual alarms for each input

80-600-0023-00

(ACSM) includes 1x AC-VSEN-4 and 2x CT-10-3



AC Power Meter

- Displays AC volts, amps frequency and power for two supplies with a third position for monitoring AC volts and frequency of a third supply
- Displays AC power in kW (true RMS)



AC Volts/Frequency

- Displays AC voltage and frequency, 80-264 Vac 50 & 60 Hz



AC Amps

- Displays Current for 2x AC supplies (0-75A)



Alarms

- High and low alarms for each input
- User selectable alarm levels
- Mutable



AC Transducer

- The AC-VSEN-4 includes 3 voltage transformers for up to 3 voltage inputs.
- Dimensions: 69 x 140 x 50 mm (2.75 x 5.5 x 2 in)

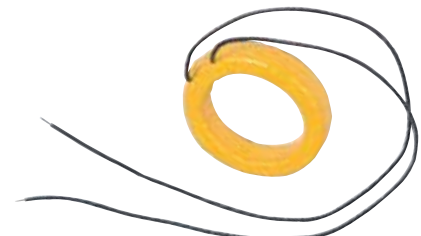
AC-VSEN-4



Current Transformer

- Maximum current 150A AC
- One CT-10-3 current transformer is supplied with ACSM. If a twin line system is in use, a second CT must be ordered.
- Dimensions: 37.5 x 39.2 x 13.7 mm (1.5 x 1.55 x .55 in)
- Hole size: 12 mm (0.5")

CT-10-3



Current Transformer

- Maximum current 150A AC
- CT-HD is available for systems with large mains cables, too large for CT-10-3 (ordered separately).
- CT-HD dimensions: Ø 47 x 10.5 mm (Ø 1.85 x 0.4 in)
- Hole size: 32 mm (1.25 in)

CT-HD

MONITORING – TANK LEVEL SENDERS

MARINE SYSTEMS MANAGEMENT

Tank Sender Interface Module

- Is only required when using VDO (10-180) or Teleflex (240-33) senders to produce a 0-5 V signal to operate the 600-TLM-N.
- Switchable link for VDO or Teleflex signal. 10-32 V supply.
- One unit per sender required.
- Dimensions:
60 x 34 x 22 mm
(2.4 x 1.3 x .9 in)

600-TLM-SIF



LED Tank Gauge

The 600-TG offers economical monitoring for fresh or grey water tanks (plastic or fiberglass only). Using 600-TGSK strategically mounted well nuts will give 4 tank levels. Supplied with one sender kit. Second sender ordered separately. Also available is the RV-TS-5M Tank sender. Only one hole is required for installation, the sender is sealed via external lock nuts. Suitable for tanks with maximum depth of 280 mm.



RV-TG

LED Tank Gauge	
Item #	Description
RV-TG	1 tank
RV-TG-2T	2 tank
RV-TG-3T	3 tank

Tank Sender

Suits tanks with maximum depth of 280 mm and a maximum wall thickness of 10 mm, and a maximum hole size of 22 mm. Comes with 5 m cable.

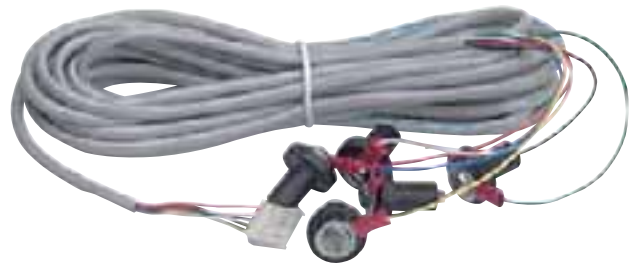
RV-TS-5M



Tank Sender

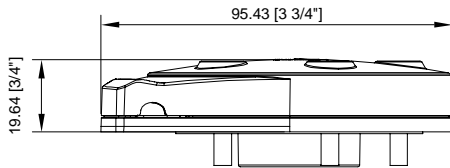
Well nut hole size 9 mm (3/8"). Cable length 5 m. (One kit supplied with 600-TG).

600-TGSK

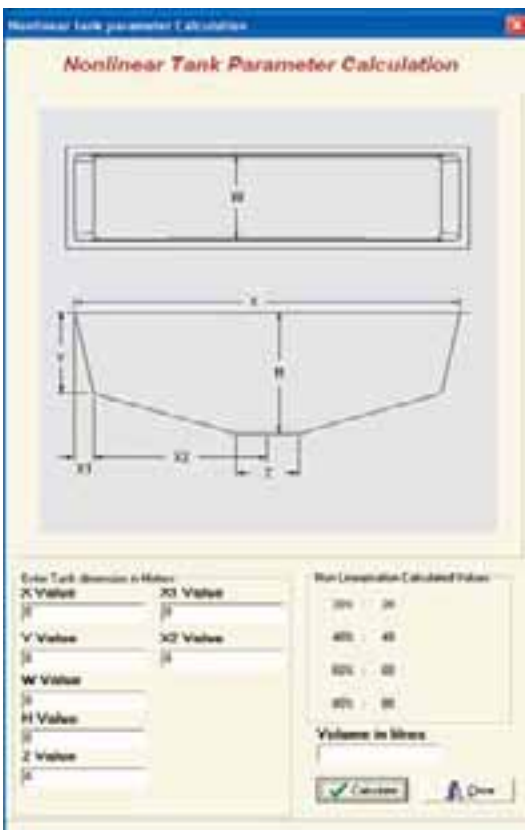


BEP™ Ultrasonic Tank Sender—No Moving Parts

- Handles common outputs – 240-33, 10-180, Vetus 10-300 and 0-5 V tanks from BEP, Teleflex, Faria, VDO and many other popular instrument brands. (When connecting to non-adjustable gauges the TS1 must be pre-calibrated)
- Low Profile Design and standard SAE 5 hole mounting pattern, allowing it to be retrofitted to practically all other sender brands.
- Can be set for tank dimensions via computer using BEP™ Marine's proprietary TS1 software, avoiding experimental tank filling on site
- Connects directly to the DC systems monitors (80-600-0021 & 80-600-0022-00 page 164) when configured to a 0-5 V output
- Is set for 0-2000 mm depth off the shelf (not suitable for tank depths less than 200 mm) 8 inches.
- Operating voltage: 10-32 V
- Current draw: 25 mA with 5 V gauge output
- Measurement method: Acoustic sonic measurement
- Tank depth: 0–2000 mm (6.5 ft)
- Accuracy Distance: 0–2000 mm (6.5 ft) at 2 mm accuracy
- Mounting: SAE 5 stud mounting pattern with gasket, seal and screws (top mount only).
- Environmental temperature: 4–65 °C
- Chemical resistance: Petrol, diesel, water, toilet chemicals
- Tank type style: Metal and plastic with non linear capacity
- Works with petrol, diesel, fresh water, grey water and black water



...the most unique and sophisticated system of any tank monitor tested... the ultrasonic technology is extremely accurate.
Practical Sailor Magazine, July 2009



BEP's proprietary Window's based software application allows for TS1 senders to be programmed specific to tank shape, size and fluid type via a computer's USB port.

Programming is a simple process and can be carried out by downloading free software from www.bepmarine.com and purchasing a programming kit **TS1-PK**.

Once programmed, the specific tank parameters are stored in the non-volatile memory of the TS1. Find more detailed information at bepmarine.com

TS1 Programming Device



MONITORING – GAS DETECTORS

Gas Detectors

The BEP™ Detectors use microprocessor control to ensure correct sensor sensitivity. The Detectors have the capability to control two sensors which detect both LPG and Petrol, with visual and audible alarms.

- Dual sensors for LPG and Petrol
- Visual and audible alarms; provision for external alarm
- Self-testing
- Automatic shut-off solenoid control with pulse and hold circuit for low power draw (600-GDL only)
- Provision of bilge blower
- 2.4 x 3.5 x 0.7 in (66.5 x 88 x 17 mm)

Contour Matrix Gas Detectors - 600-GD, 600-GDL, FD-2

Voltage (V DC)	10 - 32
Current (mA)	350 max.
Alarm Sensitivity	20% lower explosive limit
Current@Out (mA)	800 max.
Solenoid (mA)	700 pulse, 250 hold

MARINE SYSTEMS MANAGEMENT



600-GD

600-GD will detect LPG, Petrol and CNG fumes. Supplied with one sensor, with an option for a second sensor, Part no BL-SL-L output for remote alarm and blower unit. 600-GD can be used on 12 or 24 V systems.



600-GDL

600-GDL has the same features as the 600-GD, with the ability to switch a valve on. It contains a unique "Pulse & Hold" circuit within the detector. This allows the valve to be pulled in at 12 V and then once energized it will step down to hold the valve in place. This reduces power consumption and heat while the gas is turned on.



600-LPG

600-LPG is a stand alone gas shut-off system with no gas detection ability. For 12 V systems order VR2.2 separately. For 24 V systems order VR2.2-24V.



BL-SL-L

One Sensor lead supplied (5 m) with GD & GDL.
Second Sensor lead ordered separately



600-GDRV

600-GDRV has the sensor mounted in the front fascia creating a stand alone unit. The unit is designed to be surface mounted at the vessel's lowest point.



FD-2

FD-2 is designed for an economic in-dash installation. Supplied with sensor (5 m cable) which is capable of detecting combustible gases.

VR2.2 Solenoid Valve and Regulator Kit



VR2.2

Compatible with 600-GDL Gas Detector or 600-LPG.

Solenoid voltage: 12 V or 24 V;
Gas outlet: 3/8 BSP;
Gas inlet: POL Thread;
Current draw: 800 mA;
Current draw with GDL or PH-12V: 0.2 A;
Regulator Flow Rate: 3 kPa.

Note: The VR2.2 may not comply in some countries, and does not comply with USCG requirements. Please check with your local gas installer. Not for sale in the USA.



SA296COMP-12V (24V version SA296COMP-24V)

The SA296COMP-12V is suitable for countries where VR2.2 is not approved. The CE approved SA296COMP-12V can be installed by an approved gas installer using approved components from within specific markets. 12 V or 24 V options available. Uses 1/4" BSP thread.

Analog

- Analog meters as used in BEP™ Contour circuit breaker panels.
- All analog meters accurate to within 2.5%



N816DCV



N0300ACV



N0100A



N060ACT

Meters	Item #	Range	Division Marks	Shunt Type
Amp (DC)	N010A	0-10 A DC	0.5 A	Internal
	N020A	0-20 A DC	1 A	Internal
	N050A	0-50 A DC	2 A	50A-50mV
	N0100A	0-100 A DC	5 A	100A-50mV
	N0150A	0-150 A	1 A	150A-50mV

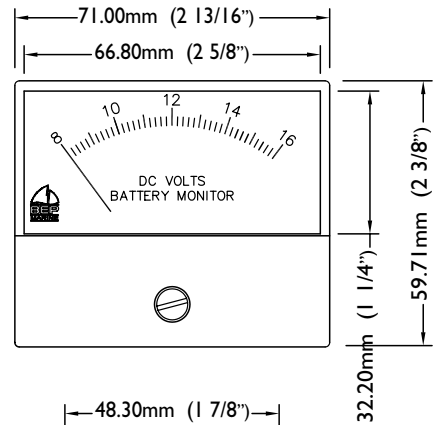


When ordering optional external shunt ammeters, shunts must be ordered separately.

Meters	Item #	Range	Division Marks
Volt (DC)	N816DCV	8-16 V DC	0.2 V
	N1632DCV	16-32 V DC	0.4 V
Volt (AC)	N0150ACV	0-150 V AC	10 V
	N0300ACV	0-300 V AC	20 V
Amp (AC)	N060ACT	0-60 A AC	5 A
	N0100ACT	0-100 A AC	5 A



CT-10-AN must be ordered when using N060ACT or N0100ACT.



Systems in Operation Panels

- 10 mm red LED's giving important systems on information
- Ideal for flybridge or remote dash position. Also available with alarm and mute switch.
- Backlit labels

SOP Panels								
Item #	mm		in		Label Sheet	LEDs	Alarm	Mute switch
	L x W x 40	L x W x 1.6	L x W x 1.6	L x W x 1.6				
SOP1	115 x 127	4.5 x 5	4.5 x 5	1	4	No	No	
SOP1-AL	115 x 127	4.5 x 5	4.5 x 5	1	3+1 switch	Yes	Yes	
SOP2	115 x 239	4.5 x 9	4.5 x 9	1 - 2	8	No	No	
SOP2-AL	115 x 239	4.5 x 9	4.5 x 9	1 - 2	7+1 switch	Yes	Yes	



SOP1



SOP2

MONITORING

Analog & Digital

- Contour panel/front fascia complements Contour range
- All Contour Matrix monitors can fit into this style of panel

MS1 Analog Battery Condition Meter (expanded scale)

- Panel switchable to show 3 different battery banks.
- Available 12V (8-16V) or 24V (16-32V)



80-601-0020-00

MS1		
Item #	Range	Inputs
80-601-0020-00	8 - 16 V DC	3
80-601-0021-00	16 - 32 V DC	3
80-601-0022-00	0 - 150 V AC	1
80-601-0023-00	0 - 300 V AC	1

MS2 Analog Ammeter Panel

- Panel switchable for use on up to 3 different ammeter shunts
- Supplied with 1 shunt, meter scales available, 0-50A 0-100A 0-150A (refer table right)



80-601-0025-00

MS2		
Item #	Range	Inputs
80-601-0024-00	0 - 50 A DC	3
80-601-0025-00	0 - 100 A DC	3
80-601-0026-00	0 - 150 A DC	3

MS3 Panel Mounted DC Systems Monitor

- See page 164 for DCSM functionality
- Supplied with 450A-50mV shunt

Full Color Monitor



80-600-0027-00

MS4 Mounted AC Systems Monitor

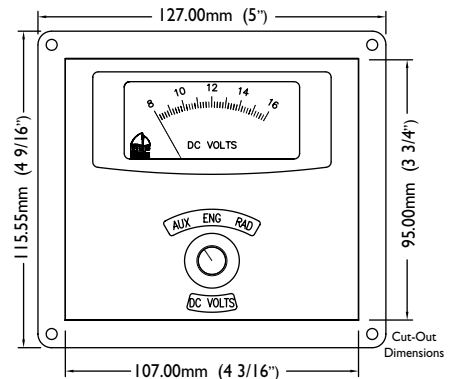
- See page 165 for ACSM functionality
- Supplied with voltage and current transducers

Full Color Monitor



80-600-0028-00

dimensions for analog and digital panels



Compact Marine Panels

- Molded gasket incorporates fastening covers
- Switches clip easily into rear of panel and can be removed to replace with different function switches eg. on/on, on/off/on, off/(on) and (on)off(on)
- Mini fuses accessible from front of panel with removable cartridge
- Custom designed toggle cover with unique sealing feature
- Switches rated at 20A DC
- Panel supplied with label LBL-CMP (page 205)
- Replacement switches available (see page 196)



CMP-4WP



CMP-5WPS



CMP-6WP

Specifications				
Item #	mm L x W x 65	in L x W x 2.5	Label Sheet	Switches
CMP-4WP	95 x 107	3.75 x 4.25	LBL-CMP	4
CMP-6WP	95 x 107	3.75 x 4.25	LBL-CMP	6
CMP-5WPS	95 x 107	3.75 x 4.25	LBL-CMP	5

Replacement Fuses ATM		
Item #	Type	Operation
JJ05A	5	2
JJ10A	10	2
JJ15A	15	2
JJ20A	20	2
JJ30A	30	2



ATM fuses are supplied in packs of 2.

Waterproof Series

- Compact panel size
- Sprayproof inline fuse holders with fuses included
- Waterproof power receptacles (16A) in five and three way models
- Waterproof to IP56
- Switches rated at 20A DC
- Panel supplied with label LBL-WP (page 205)



900-4WP



900-6WPW



900-5WP

Specifications				
Item #	mm L x W x H	in L x W x H	Label Sheet	Switches
900-3WPS	95 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	3
900-3WPSW	95 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	3
900-4WP	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	4
900-4WPW	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	4
900-5WPS	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	4
900-5WPSW	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	4
900-6WP	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	6
900-6WPW	96 x 107 x 75	3.75" x 4.25 x 2.9	LBL-WP	6

SPRAYPROOF SWITCH PANELS

Contour Generation II

The Contour Generation II Spray Proof Range offers unique styling using the latest techniques in injection molding.

The switch tray is molded plastic with a rubber gasket and seal molded into the plastic. The cover is molded in a clear plastic with a rubber over-mold allowing the flexibility to operate the switches through the front of the panel while providing a clear window for label backlighting.

The contour wave strip is interchangeable allowing for custom colors for OEM applications. Standard color supplied is black panel with charcoal strip.

G2 can be mounted vertically or horizontally and is available in 2, 4 and 6 way configurations.

A joiner (CG2-JB) is available for multiple panel installations. Supplied complete with on/off switches, these can be interchanged with a variety of different switch options.

- Replaceable clip-on contour wave (customized colors available for OEMs)
- Mounting screws covered by switch cover
- Backlit LEDs
- Flexible overshoot cover allows for easy switch operation
- Ribbed gasket provides watertight seal with switch cover
- Molded gasket on panel base creates watertight seal against mounting surface
- Unique design allows labels to be read whether mounted vertically or horizontally.
- Switches rated at 16A DC
- Panel supplied standard with label SET-G2-1 (labels SET-G2-2 ordered separately, page 75)



MARINE SYSTEMS MANAGEMENT



Specifications				
Item #	Color	Switches	Fuses	Label Sheet
CG2-2W	Black	2	No	SET-G2-1
CG2-2W-F	Black	2	1	SET-G2-1
CG2-4W	Black	4	No	SET-G2-1
CG2-4W-F	Black	4	2	SET-G2-1
CG2-6W	Black	6	No	SET-G2-1
CG2-6W-F	Black	6	3	SET-G2-1
CG2-2W-W	White	2	No	SET-G2-1
CG2-2W-F-W	White	2	1	SET-G2-1
CG2-4W-W	White	4	No	SET-G2-1
CG2-4W-F-W	White	4	2	SET-G2-1
CG2-6W-W	White	6	No	SET-G2-1
CG2-6W-F-W	White	6	3	SET-G2-1



Spare Switches for Contour Generation II	
Item #	Switch type
SW-CG1	On/Off
SW-CG2	On/Off Momentary
SW-CG3	On/Off/On
SW-CG4	Momentary On/Off/Momentary On
SW-CG5	On/On

Available upon request: Different custom color combinations for Contour strip and rubber over-mold.

Micro Series

- Green LED backlit labels; red when on
- Full range of text or graphic labels available; mix n' match labels and panels to suit
- Switches rated 20 A DC
- 86 x 58 x 28 mm (3.4 x 2.3 x 1.2 in)
- Waterproof to IP56
- Label see LBL-MIC included; additional label sets available, see pages 204–207



900-2WPMOM
1 x 2 way switch, 1 x 3 momentary switch



900-SOP
2 x 10 mm LEDs showing systems in operation



900-BA
Bilge alarm and bilge pump control panel includes: 1 on/off/on switch for auto manual control; 1 warning light and alarm for high water level alarm. (Float switch ordered separately – Item # SB1-FS)



900-2WPOFO 1 x 2 way switch, 1 x 3 way double pole switch



900-2WP 2 x 2 way switches

Contour Switch Panel

- CSP6-PTC uses the latest in overload protection technology - Positive Temperature Co-efficient
- Green LED backlit labels; red systems on indicator
- Switches rated 20 A DC
- Removable cover plates conceal screws & water drain
- Label set SET-1SP included, additional label sets available, see page 205
- **CSP6** Includes 6 switches unfused for installation where separate fused supply is available.
- **CSP6-F** Includes 6 switches and 3 inline fuse holders with fuses behind panel.
- **CSP6-PTC** fuses are solid state resettable fuses which change to a high resistance device on over-current. The panel is supplied with 6 x 9A PTC fuses mounted internally. No more changing fuses!

Specifications

Item #	mm		in		Label Sheet	Fuses	PTC
	L	W x H	L	W x H			
CSP6	158	112 x 65	6.25	4.4 x 2.5	SET-1SP	No	No
CSP6-F	158	122 x 75	6.25	4.4 x 2.5	SET-1SP	3	No
CSP6-PTC	158	112 x 75	6.25	4.4 x 2.5	SET-1SP	No	6



CSP6

SWITCH PANELS

Contour Interior Switch Panel 1000 Series

The smart, economical interior option for smaller vessels. Fully modular and built with ease of access in mind.

- Removable frame conceals mounting screws
- Concealed ATC fuses accessible from front of panel; ATC fuses supplied
- 16 A rocker switches
- Panels are modular and square for vertical or horizontal stacking.
- LED Systems On light
- Supplied with: Spacer for accurate mounting placement, label sheet Item # SET-1000 (page 75)
- Maximum panel load 50 A



1000 Series Switch Panel			
Item #	Switches	Fuses	Voltage
1000-6W	6	6	12

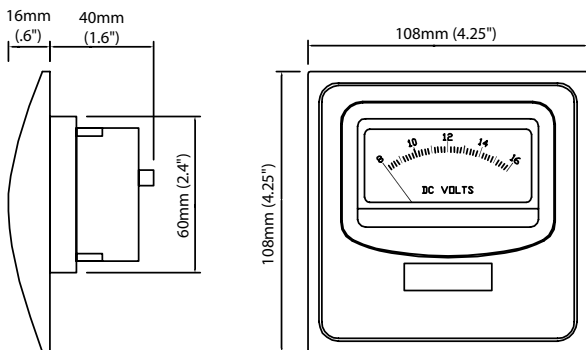
1000 Series Meters	
Item #	Description
1000-AM10	10 A Ammeter (internal shunt)
1000-AM20	20 A Ammeter (internal shunt)
1000-AM50	50 A Ammeter (external shunt, supplied)
1000-VM-12V	12 Volt Systems
1000-VM-24V	24 Volt Systems



1000-VM-12V Voltmeter

1000-AM50 Ammeter

1000-6W Switch Panel



SW-RVS2
ON/OFF

Contour 1100 Series

The Contour Interior switch can be either surface or recess mounted and is available in black, gold, chrome and white.

The interior series is supplied standard with a three terminal on/on switch which can be used for on/off circuits or two way light installations. For applications, eg: shower drain pumps or electric toilets, momentary switches can be interchanged into the switch plate.

Switches can be turned 90° for horizontal mounting, and all are current rated at 10 A DC.

**All switches include a label sheet.
For reference, see page 205**



1101-BK



1100-BK

1101-BK

1101-CH



1100-BK-TS

1101-BK-TS

Interior Switches - Rated 10 A			
Item #	Color	Single/Double	L x W x H
1100-BK	Black	Single	60 x 30 x 18 mm
1100-CH	Chrome		2.4 x 1.2 x 0.75 in
1100-GD	Gold		
1101-BK	Black	Double	91 x 30 x 18 mm
1101-CH	Chrome		3.6 x 1.2 x 0.75 in
1101-GD	Gold		

Exterior Switches - Rated 20 A			
Item #	Color	Single/Double	L x W x H
1100-BK-TS	Black	Single	60 x 30 x 18 mm
1100-WH-TS	White		2.4 x 1.2 x 0.75 in
1101-BK-TS	Black	Double	91 x 30 x 18 mm 3.6 x 1.2 x 0.75 in

Supplied with on/off 20 A DC rated switches. For other operations, eg: momentary, see page 196.



SW-6064B3P

Replacement and/or different operational switch

Specifications	
Item #	Description
SW-6064B3P	On/On (On/Off)
SW-6064C3P	On/Off/On
SW-6064D3P	On/Off Spring-loaded in "on" position

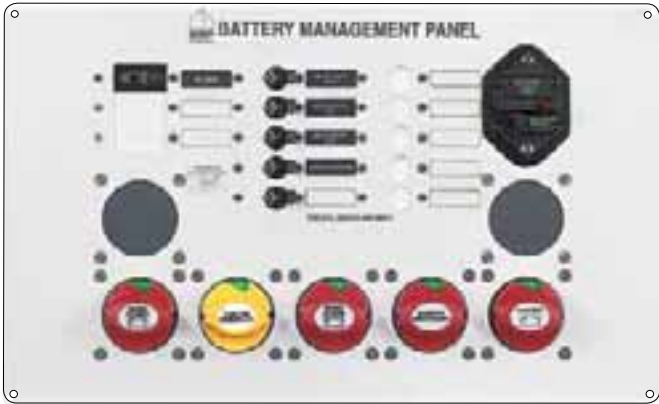
BATTERY MANAGEMENT PANELS

Battery Management Panels

- Essential circuits, 24 hour supply
- Mains breakers for control panels, davit winches, or treatment systems
- Panels are supplied with a BEP™ 703-300A/B heavy duty negative bus, to accommodate all the negative connections at the battery.
(Please note: 800-MS4 is supplied with 702B negative stud)
- Heavy duty breakers for anchor winches
- Powder coated aluminum panel
- Supplied with a full label set for panel circuit breakers - Part No SET-MSP; additional label sets available (see page 205)
- Spare positions for additional battery switches and circuit breakers for extras such as radio batteries and genset batteries



800-MS1
The 800-MS1 panel is designed for power or sail boats between 10–12m (32.9-39.5 ft) with single engines. 260 x 351 x 75 mm (10.25 x 13.8 x 2.9 in)



800-MS2
The 800-MS2 panel is designed for power boats between 10–12 m (32.9 - 39.5 ft) with twin engines. 281 x 463 x 75 mm (11.1 x 18.25 x 2.9 in)



800-MS3
The 800-MS3 panel is designed for power boats between 12–16 m (39.5 – 52.5 ft) with larger diesels. 380 x 463 x 95 mm (15 x 18.25 x 3.75 in)



800-MS4
The 800-MS4 panel is designed for sail boats up to 14 m (46 ft) and power boats up to 10 m (32.9 ft) with single engine. 160 x 239 x 75 mm (6.3 x 9.4 x 2.9 in)

Auxiliary Parts (ordered separately)

- 701** Battery switches to fit panel cutouts
- 713** Battery switch label sheet

Circuit Breakers

- For treatment systems, davit winches and sub-mains.
- CBL-50A-SP** 50 A
 - CBL-75A-SP** 75 A
 - CBL-100A-SP** 100 A

701 Contour Battery Master Switch

- The 701 Contour Battery Master Switch offers a number of unique features, the highlight being the patented Contour Locking System, allowing it to be a stand alone unit, or locked together with other switches.
- Features a control knob which cannot be removed while in the ON or OFF position, however, can be removed by switching to an counter-clockwise 45° position. The control knob also features an interchangeable labeling system allowing a full range of applications (Part number 713 or 715: page 206).
- Removable side plates on 4 sides for access of up to 1/0 cables plus a rear cover insulating the rear terminals against any short circuits. This ensures the switch meets ABYC requirements.
- Can be either surface or recess mounted by cutting a 52 mm hole (2.1 in).



701



720

720 Heavy Duty Battery Switch

The 720 Heavy Duty Battery Switch fits into the same contour lock system as used on the battery distribution system. Rated at 600 A continuous and 2500 A cranking. It is well suited to larger vessels.

As with the 701, the 720 can be recessed or surface mounted. The 720 uses the same style of self cleaning sliding contact as used in the 701 and uses the same label sheet (part number 713 or 715 refer page 206).

BEP's patented Contour Locking System is an innovative feature that allows for multiple battery management components to be connected to each other providing for a clean finished installation. These locking tabs can be found on battery switches, heavy duty buss bars, fuse holders, distribution studs and breaker modules.



Specifications for these items on page 178



701S Mini Battery Selector Switch

The 701S is the most compact selector switch available on the market. Housed in the same dimensions as the 701, and includes the same removable side plates and back cover. While BEP recommends isolated battery systems as outlined with our distribution clusters, the 701S offers a simple economical way of separating two batteries.

Please note selector switches will not separate electronics from harmful engine starting spikes.

721 Battery Selector Switch

The 721 Battery Selector Switch is our heavy duty selector switch. Housed in the same module as the 720, it includes the same removable plates and back cover. While BEP recommends isolated battery systems as outlined with our distribution clusters, the 721 offers a simple economical way of separating two batteries.

Please note selector switches will not separate electronics from harmful engine starting spikes.

BATTERY DISTRIBUTION



The 700 Easyfit™ Battery Switch

Following customer feedback about installations where switches need to be recessed through varying thicknesses of panels, we developed the 700 Easyfit™ switch. It achieves this through an easily removable threaded ring allowing for panel thicknesses up to 19mm (3/4"). It uses the same features as the 701 with the removable key 45° past the off position, labelled handle and a removable back cover covering exposed terminals to meet ABYC specifications.

The switch can also be surface mounted offering a unique style compared to other switches available on the market.

The 700 Easyfit™ switch can easily be retro-fitted in place of most European post and lever type switches.



720-DP Double Pole Battery Switch

The 720-DP Double pole battery switch is a welcome addition to the BEP™ battery switch range. It has the same dimensions and features as the 720 battery switch, but also meets the needs of systems where positive and negative supplies must be isolated at the same time.

SAFETY NOTE: BEP recommends the 720-DP for isolating positive and negative circuits. We do not recommend it for switching house and start battery systems at the same time. We recommend separate switches for house and start for safety reasons. You may need to isolate your engine battery in an emergency and not your house battery, which typically powers the communications.

Battery Knob Options for 701 Switch

For applications where emergency parallel switch needs to be highlighted.

Order separately - replaces existing knob.



701-KEY-EP



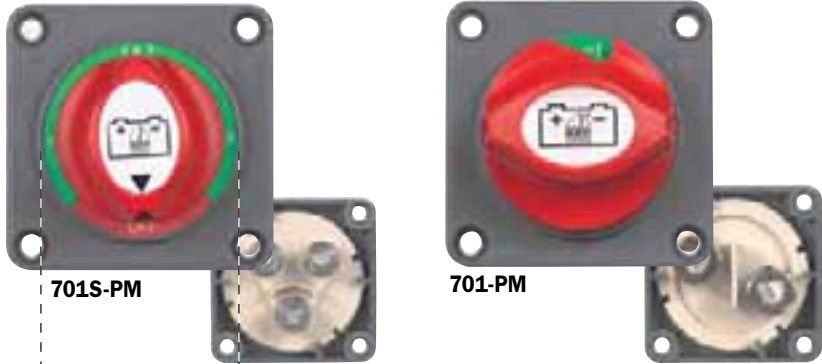
701-KEY

Specifications - All recessed or surface mount, tin-plated copper studs & nuts, ignition-protected											
Item #	Pack Type	mm		in		Rating (A DC)			Voltage		Stud size [Studs x (mm / in)]
		L	W x H	L	W x H	Continuous	Intermittent	Cranking	(V DC)	Operation	
700	display	68	68 x 110	2.7	2.7 x 4.3	275	455	1250	48	On/Off	2 x (10 / 3/8)
701	display	69	69 x 75	2.75	2.75 x 3	275	455	1250	48	On/Off	2 x (10 / 3/8)
701S	display	69	69 x 75	2.75	2.75 x 3	200	300	1000	48	1-2-Both-Off	3 x (8 / 5/16)
720	display	102	102 x 90	4	4 x 3.5	600	800	2500	48	On/Off	2 x (12 / 1/2)
720-DP	display	102	102 x 90	4	4 x 3.5	400	525	1500	48	On/Off 2 poles	4 x (12 / 1/2)
721	display	102	102 x 90	4	4 x 3.5	350	500	1500	48	1-2-both-Off	3 x (10 / 3/8)
700B	bulk	68	68 x 110	2.7	2.7 x 4.3	275	455	1250	48	On/Off	2 x (10 / 3/8)
701B	bulk	69	69 x 75	2.75	2.75 x 3	275	455	1250	48	On/Off	2 x (10 / 3/8)
701S-B	bulk	69	69 x 75	2.75	2.75 x 3	200	300	1000	48	1-2-Both-Off	3 x (8 / 5/16)
720B	bulk	102	102 x 90	4	4 x 3.5	600	800	2500	48	On/Off	2 x (12 / 1/2)
720-DP/B	bulk	102	102 x 90	4	4 x 3.5	400	525	1500	48	On/Off 2 poles	4 x (12 / 1/2)
721B	bulk	102	102 x 90	4	4 x 3.5	350	500	1500	48	1-2-both-Off	3 x (10 / 3/8)

Panel-Mounted Switches

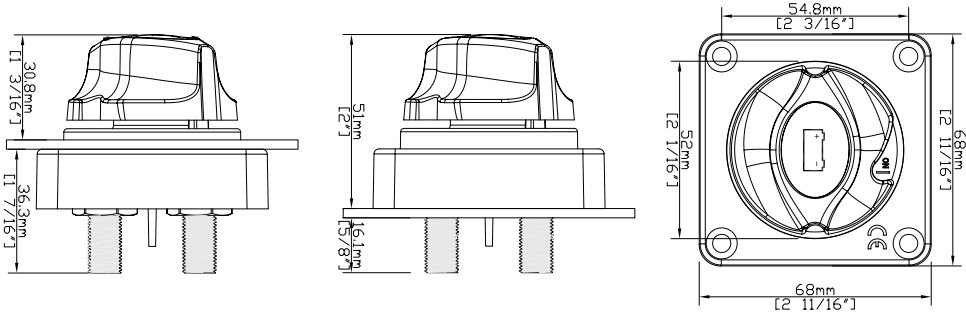
The panel mount range of battery switches are designed specifically for panel mount applications. This range gives a very compact, versatile solution.

- Compact, lightweight
- Same specifications as model 701 and 701S (see page 177)
- Removable key on 701-PM
- Countersunk recesses for surface mount application
- Standard 52 mm (2-1/16") hole cut out (same as standard gauge hole)
- Inside: captive inserts for 4.8 mm (3/16") nuts; full access for cables - no restrictions
- Standard BEP™ interchange label system (see page 206)



As shown in Contour Connect panels

Panel-Mounted Switches	
Item #	Pack Type
701-PM	display
701B-PM	bulk
701S-PM	display
701S-B-PM	bulk



Mounting Plates

With the growing number of builders installing BEP™ battery switches in panels greater than 10 mm (3/8 inch) thickness, BEP realized the need to supply simple mounting plates for single or multiple switches in our small and large battery switch ranges. These are supplied with all the mounting hardware and come in a matching grey finish.

Mounting Plates for Battery Switches				
For	Item #	mm	in	Description
		L x W	L x W	
701	BSP-1	95 x 95	3.75 x 3.75	Single recessed

BATTERY DISTRIBUTION

Remote Operated Battery Switches

Due to the increased load requirements and large increases in the cost of copper battery cable, the MD range of battery switches allows you to install the battery switch very close to the battery, reducing cable lengths to starter motor. They are also ideal for remote isolation of bow thrusters. The 720-MDO has been enhanced to include internal optical sensors providing even more operational functionality to this innovative master switch.

- Remote operation
- Battery switch can be mounted alongside battery, reducing cable lengths and cable sizes to starter motor. (Large cost saving in copper cables)
- Reduced installation labor, due to shorter battery cable runs
- Manual override option to meet CE requirements
- Power Draw: Switch off: 12mA. Switch on: 15mA, switch operating 120 mA for 3 seconds @ 12 V nominal
- LED status identification for remote control switch
- Same capacities/specifications and mounting options as standard BEP™ battery switches
- Uses same interchangeable labeling system as BEP™ battery switches (page 206)

Optical sensor benefits (720-MDO only)

- Can be used to switch in positive or negative lines
- Low stand by current draw (7mA) (zero if aux control switch used. See instruction sheet)
- Main contacts isolated from control circuit allowing operation via another battery source



High-Current Remote Operated Battery Switches									
All recessed or surface mount, tin-plated copper studs & nuts, ignition-protected									
Item #	mm L x W x H	in L x W x H	Rating (A DC)			Voltage (V DC)	Function	Stud size Studs x (mm/ in)	
			Continuous	Intermittent	Cranking				
701-MD	68 x 68 x 101	2.7 x 2.7 x 4	275	455	1250	9.5 - 32	On/Off	2 x (10 / 3/8)	
720-MDO	102 x 102 x 110	4 x 4 x 4.33	500	700	2500	9.5 - 32	On/Off	2 x (12 / 1/2)	



80-724-0006-00

For the remote operation of the 701-MD and 720-MDO battery switches (above).

It can be mounted standalone or within the Contour Connect panel range.

Wireless Remote Control

You can now wirelessly operate your BEP™ motorized battery switches from a distance of up to 80 meters (250 feet) away

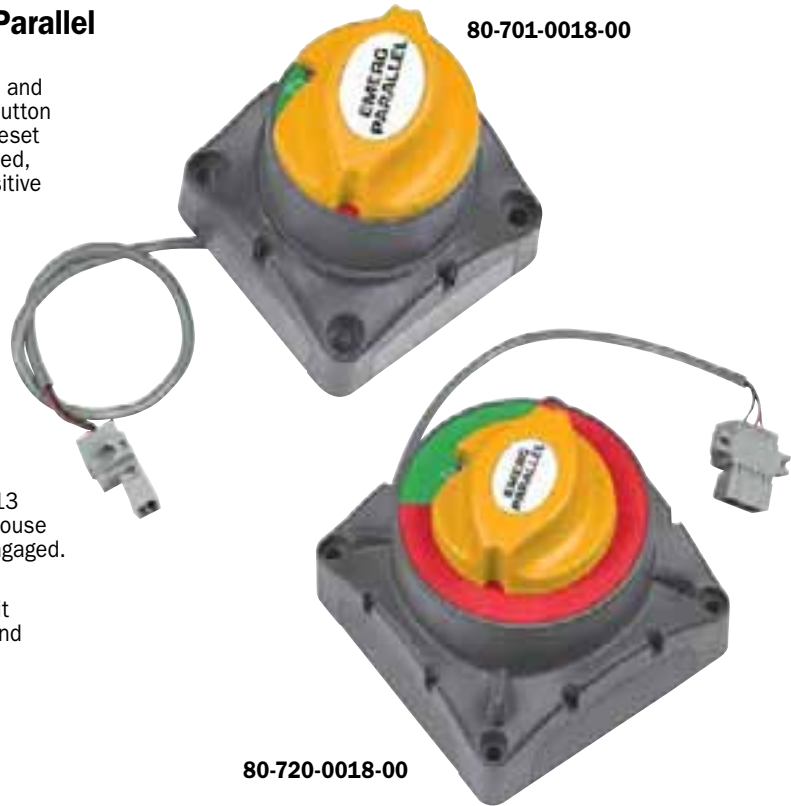
- Control up to 4 separate 5 A circuits; eg, 701/720-MDO battery switches, anchor light, navigation lights, and courtesy lights
- No more lifting hatches to turn on battery switches — it's now all controlled from the remote keyfob
- Control battery switches easily (On/Off) from the dock
- Remote has a rolling code, for security

80-911-0045-00



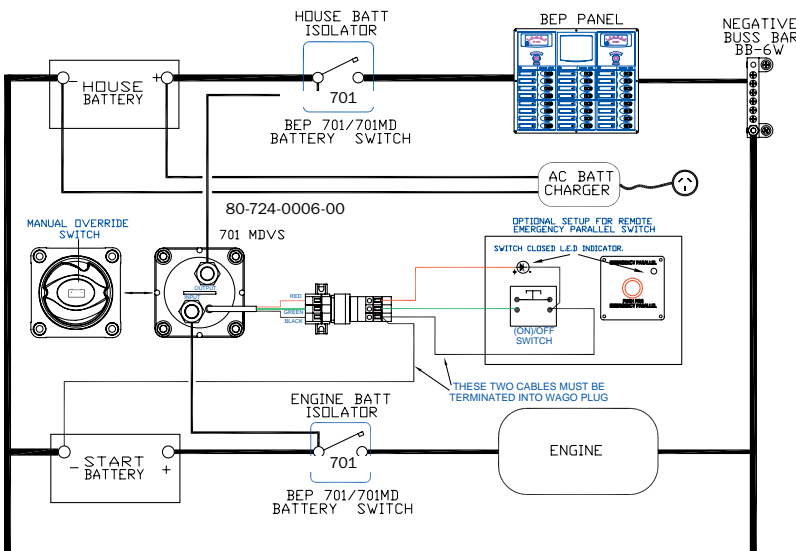
Dual Operation VSR and Emergency Parallel

- Dual battery sensing
- Remote emergency parallel function: the 701-MDVS and 720-MDVS can be operated through a momentary button on the dash which will parallel the batteries for a preset time of 10 minutes. Once this 10 minutes has passed, if the voltage is up high enough for the voltage sensitive switch to operate, it will stay engaged. If not, it will disengage.
- Engine run sensing: VSR will engage when the voltage on either start or house battery reaches 13.7 volts. If the combined battery voltage drops below 13.0 volts and the engine is not running, after 5 seconds the contacts will open and stay open until the start or house battery voltage exceeds 13.7 volts. If the combined battery voltage drops below 12.2 volts and the engine is running, after 5 minutes the contacts will open and stay open until the start or house battery voltage exceeds 13.7 volts. If voltage drops below 13 volts and stays above 12.2 volts on either start or house battery while engine is running, the VSR will stay engaged.
- Manual override option
- The advantages of using a high current VSR is that it will cover your dual battery charging requirements and emergency parallel operation in one unit.
- Also available in Emergency parallel only (no voltage sensitive function). See table below.



80-720-0018-00

High Current Remote Operated VSR						
Item #	mm L x W x H	in L x W x H	Volts (V)	Rating (A)	Engages (V DC)	Disengages (V DC)
701-MDVS	68 x 68 x 101	2.7 x 2.7 x 4	12	275	13.7	12.2 - 13.00
720-MDVS	102 x 102 x 110	4 x 4 x 4.3	12	500	13.7	12.2 - 13.00
701-MDVS-24V	68 x 68 x 101	2.7 x 2.7 x 4	24	275	27.4	24.4 - 26.00
720-MDVS-24V	102 x 102 x 110	4 x 4 x 4.3	24	500	27.4	24.4 - 26.00
80-701-0018-00	68 x 68 x 101	2.7 x 2.7 x 4	12/24	275	Emergency Parallel Only	
80-720-0018-00	102 x 102 x 110	4 x 4 x 4.3	12/24	500	Emergency Parallel Only	



80-724-0007-00

For the remote operation of the 701-MDVS and 720-MDVS voltage sensitive battery switches. It can be mounted standalone or within the Contour Connect panel range.

VOLTAGE SENSITIVE RELAYS – 12/24 V DC

MARINE SYSTEMS MANAGEMENT



NEW Digital Voltage Sensing Relay (DVSR)

The new Digital VSR (Voltage Sensing Relay) combines all of the market proven features of the existing VSR with a host of new functionality.

The Voltage Sensing Relay (VSR) allows the charging of a second battery from a single charging source. When the voltage on the start battery rises to a level indicating a 60% charge, the VSR engages allowing the 2nd battery to charge. When charging stops and voltage falls the VSR will disengage isolating the two batteries from each other.

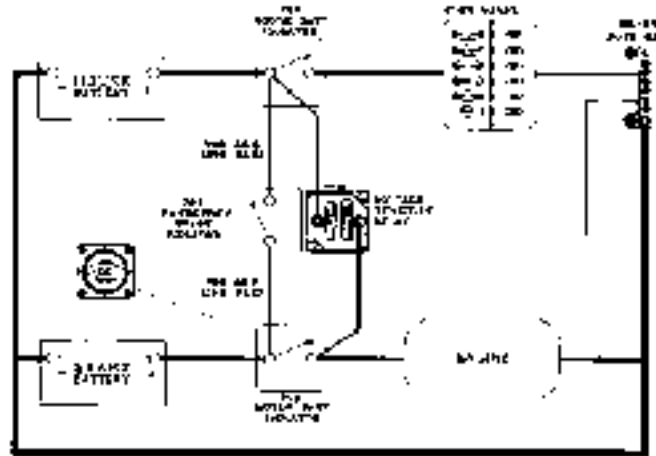
Dual sensing functionality enables the sensing of two battery banks allowing two way charging.

- Safely charge two or more independent battery banks from one charge source (alternator, battery charger...)
- Charges engine starting batteries before combining auxiliary bank for charging
- Protects start batteries from becoming flattened by domestic loads
- Isolates electronics from harmful electrical surges from starter and winch motors
- Simple to install 3 wire connection, leaves alternator wiring intact
- No volt drop vs. diode isolators
- Ignition protected
- Surface or panel mountable

2011 Digital enhancements:

- Selectable for dual or single battery sensing operation
- Remote status LED output
- Priority charge cycle—automatically delays second battery charging when start battery is low
- Remote sensing circuitry for isolated control from secondary supply
- Zero stand by current draw when remote sensing circuit utilized with switch fitted (switch in open position)
- Multi voltage, auto selects between 12 and 24V DC operation

• **Replaces previous models 710-125A and 710-125A-DS**



Wiring diagrams indicative of installation only, for full instructions see the BEP website: bepmarine.com

Voltage Sensitive Relays - Ignition protected

Item #	Pack Type	mm L x W x 50	in L x W x H	Volts (V)	Rating (A)	Engages (V DC)	Disengages (V DC)
					Continuous		
710-150A	display	69 x 69	2.75 x 2.75 x 2	12	150	13.2	12.7
710-150A-B	bulk			24	150	26.4	25.4



Low Voltage Sensitive Relay

The LVSR is BEP's latest innovation in battery protection. If your vessel's primary voltage falls below 11 V, the LVSR automatically detects this and switches the essential circuit load to a second battery. When the LVSR detects a rise to 13 V on the primary battery, it reverts to its original state, and the LVSR's alert light switches off. The primary application for this is to ensure power is available for bilge pumps on unattended boats during heavy rain conditions. If a second battery is not connected to the LVSR, it will act as a low voltage disconnect. Ideal for charter boats.

- Avoids batteries being totally discharged.
- Easy 3 wire connection at the battery.
- No need to bypass existing alternator wiring
- Conventional diode isolators incur a minimum of 0.6 V drop.

Low Voltage Sensitive Relay - Ignition protected

Item #	mm L x W x H	in L x W x H	Volts (V)	Rating (A)	Engages (V DC)	Disengages (V DC)
80-710-0014-00	69 x 69 x 50	2.75 x 2.75 x 2	12	40	13	11

Battery Distribution Clusters

With the successful release of the BEP™ battery distribution system, BEP saw the need for ready assembled clusters for different applications to make the installation within the battery area even easier. Following is the range as outlined in each diagram, which are overviews only.

All clusters are completely bused and pre-wired internally and are supplied with mounting fastenings along with easy to follow instructions. These include all connecting points clearly marked with ABC labels as shown in all illustrations.

**Now Incorporating
NEW Digital VSR**



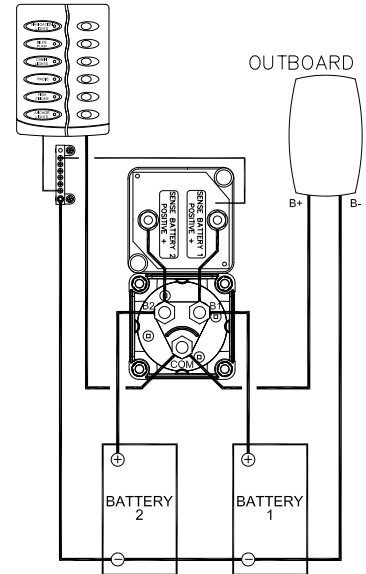
714-100A

Single Engine, Two Battery Banks

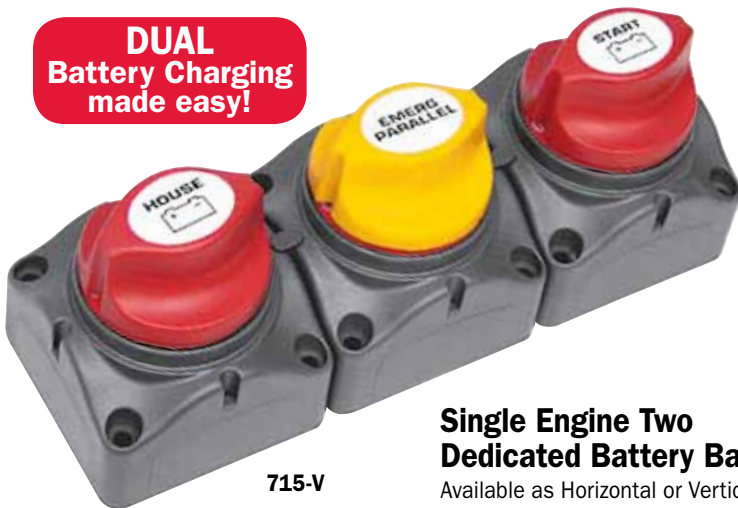
The 714-100A uses a dual sensing VSR (710-125A-DS). This system ensures you will always have a fully charged reserve battery. When the switch is in position one, it becomes the sensing battery for the VSR. Battery two, which is in isolation, will be charged via the VSR when the engine is running ensuring it is always fully charged. When the switch is in battery two position, this becomes the sensing battery and battery one is charged via the VSR. The fact that there is always a fully charged battery in reserve is a huge safety factor.

Please note: With the 714-100A the electronic loads are run off the same battery as the engine starting battery. Bulk version available, item # 714-100A-B

See tables on page 185 for specifications.



**DUAL
Battery Charging
made easy!**



715-V

Single Engine Two Dedicated Battery Banks

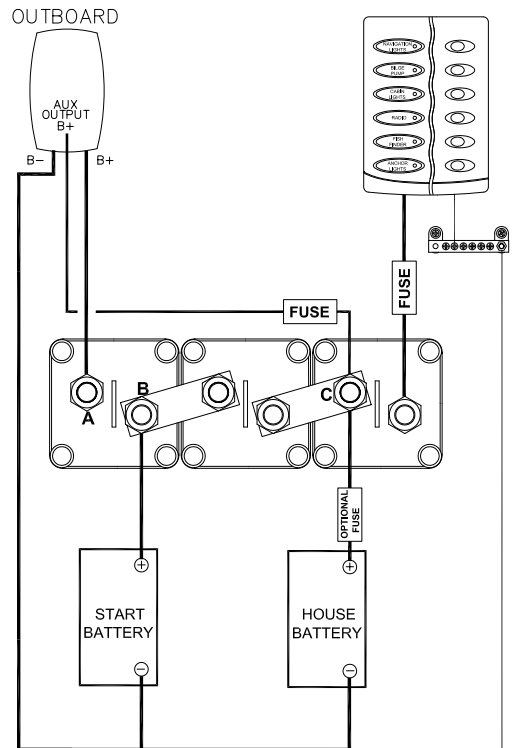
Available as Horizontal or Vertical units.

To be used in the following systems:

- 1) Single outboard dual battery bank
- 2) Single alternator dual battery bank
- 3) Twin alternator dual battery bank

715-H Horizontal

715-V Vertical



BATTERY DISTRIBUTION CLUSTERS

Single Engine, Two Battery Banks

An ideal replacement for a Battery Selector Switch. Just remove selector switch and connect existing wires to a 716 cluster, no extra wires are required for a fully automatic battery management system.

No more flat start batteries.

Electronics protection from harmful engine start spikes.

The 716 cluster is for use on charging systems up to 150A. To be used in the following systems:

1. Single outboard dual battery bank.
2. Single alternator inboard engine dual battery bank.

The 716 cluster replaces battery isolator systems. For VSR operation, see page 182.

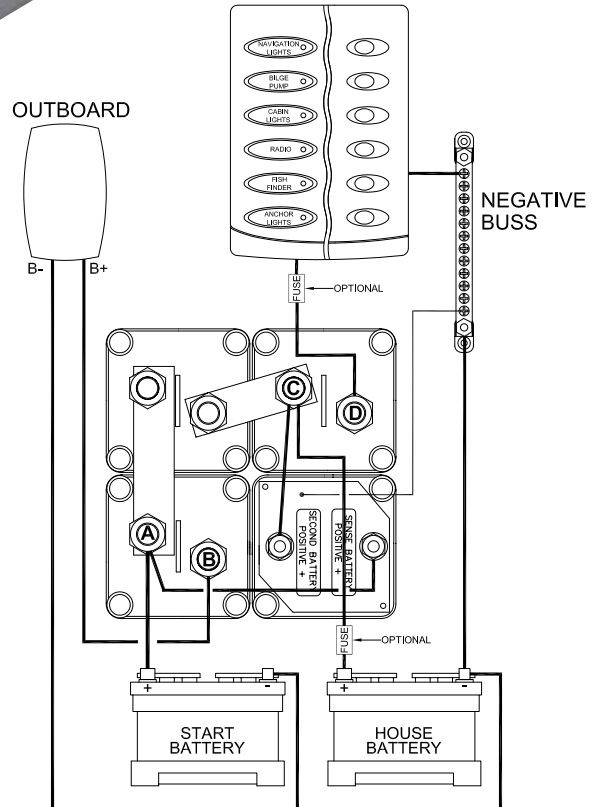


716-SQ-100A

DUAL
Battery Charging
made easy!



716-H-100A



Twin Engine, Two Banks

The 715-S allows the house loads to be switched between port and starboard batteries.

The selector switch can also be used to parallel the batteries when in both positions.



715-S

Twin Engine, Three Banks

The 718-100A is designed for twin inboard systems when it is not practical to have both engine alternators in parallel because of the types of regulators used on these alternators. The house battery is charged from the port engine when the VSR is engaged. (for VSR operation read see page 182.)



718-100A

Twin Outboard, Three Banks

This system is designed for twin outboard installations using outboards without AUX outputs. It will allow the port engine to charge the port start battery and the house battery when the VSR is engaged. It will also allow the starboard engine to charge the starboard start battery and the house battery when the starboard VSR is engaged, giving a combined charge from two outboards into the house battery until the voltage regulators on both engines control the charge. It will also allow the house battery to be charged if steaming on one engine.



717-100A

Triple Outboard, Four Banks

This system is designed for triple outboard installations. Once again using multiple VSR's off each start battery giving combined charge from all 3 outboards into the house battery via VSRs.



719-100A

Battery Distribution Clusters

VSR Charging Current: 150 A, Battery Switch Rating: 275 A

Engine type / battery (banks)	Item #	mm	in
		L x W x 75	L x W x 3
Single inboard or outboard / 2	714-100A	138 x 69	5.4 x 2.75
	715-H	207 x 69	8.1 x 2.75
	715-V	69 x 207	2.75 x 8.1
	716-SQ-100A	138 x 138	5.4 x 5.4
	716-H-100A	276 x 69	10.85 x 2.75
Twin inboard or outboard / 2	715-S	210 x 69	8.1 x 2.75
Twin outboard / 3	717-100A	138 x 207	5.4 x 8.1
Twin inboard / 3	718-100A	207x 138	8.1 x 5.4
Triple outboard / 4	719-100A	207 x 207	8.1 x 8.1

Dimension guide

Clusters are made from uniformly square switches, each side 69 mm (2.7")



BATTERY DISTRIBUTION CLUSTERS

Manual Clusters using Motorized VSR



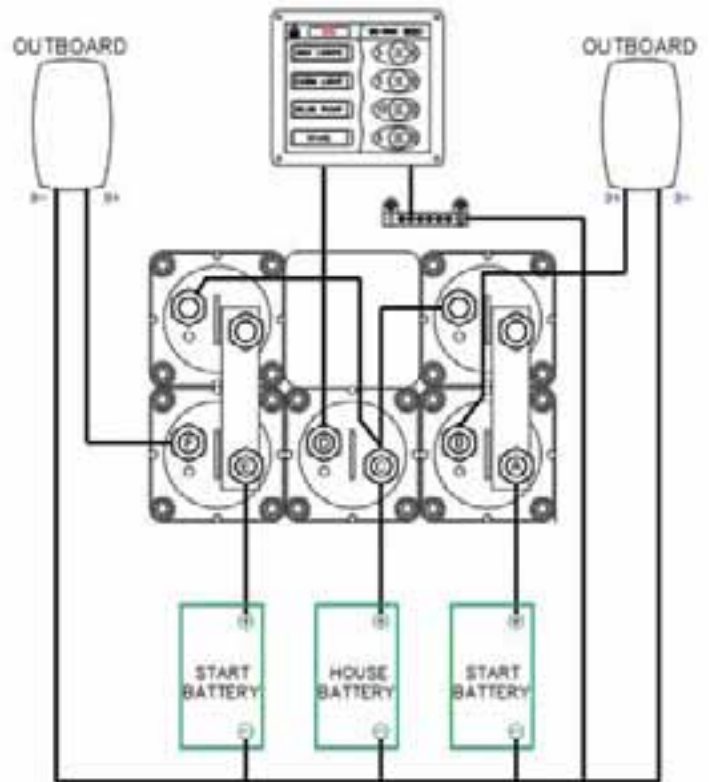
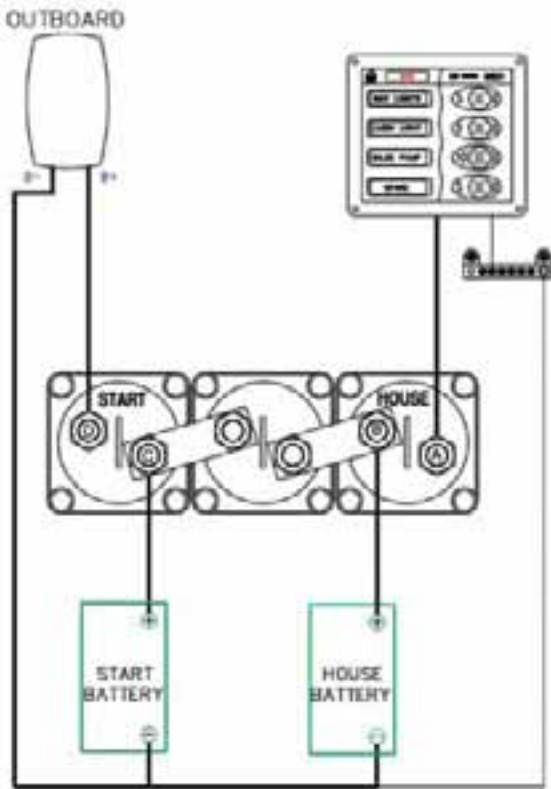
80-716-0017-00

Offers the same features as the 716-SQ-100A (see page 185), with two important differences. The VSR and Emergency parallel switch are combined into one voltage-sensitive switch, and that switch is able to be remote-operated. For features of the motorized VSR, see page 181. The layout allows all cables to be attached from the bottom of the cluster.



80-716-0018-00

Offers the same features as the 717-100A (see page 185). The VSR and Emergency parallel switch are combined into one voltage-sensitive switch, and that switch is able to be remote-operated. For features of the motorized VSR, see page 181. The layout allows all cables to be attached from the bottom of the cluster.



Battery Control Center

Sophisticated Electrical Systems Need Reliable Automation. That's Key. Centralize power handling with the BEP™ Battery Control Center...

...and BEP's latest line of rugged remote-operated switching banks, Cluster or Contour Connect mounted, delivers hard-handling, good-looking power management where it's needed. The Battery Control Center (BCC) is equipped with locks on each battery switch position. This ensures group operation at the turn of the key. Any switch can be isolated by disengaging its lock and toggling the switch off.

- Control all battery switches from one convenient position
- Isolate each battery via key switch or designated battery banks via breaker
- LED Status indicators for battery switch status.
- Uses Contour Connect molding to match other BEP products. (see Contour Connect panel range)

Essential Circuits

If you're installing a single engine system, there will be 2 spare CBs which can be used for essential circuits, eg. stereo memory, bilge pumps. If installing a dual system, only one CB is available.



80-700-0051-00

Battery Switch Control Centers	
Item #	Description
80-700-0050-00	Single engine remote
80-700-0051-00	Twin engine remote
80-700-0052-00	Triple engine remote



REMOTE BATTERY MANAGEMENT SYSTEMS – 12/24 V DC

MARINE SYSTEMS MANAGEMENT

Remote Battery Management Systems

- Complete system including all cable links (Battery Control Center ordered separately)
- Offers all features of motorized battery switches and Motorized VSRs in one kit. Makes ordering easy!
- Contour Connect panels can be flush-mounted for tidy installation and can be combined with other Contour Connect products (pages 189–194)
- Clusters are surface mount, and can be rearranged to meet specific needs, such as port and starboard configurations and can be combined with other battery distribution products (page 199–202)
- Available in single, dual and triple engine configurations

Single Engine



80-700-0047-00

80-716-0014-00

Dual Engine



80-700-0048-00

80-716-0015-00

Triple Engine



80-700-0053-00

80-716-0016-00

Single Engine, Two Battery Banks



80-700-0054-00

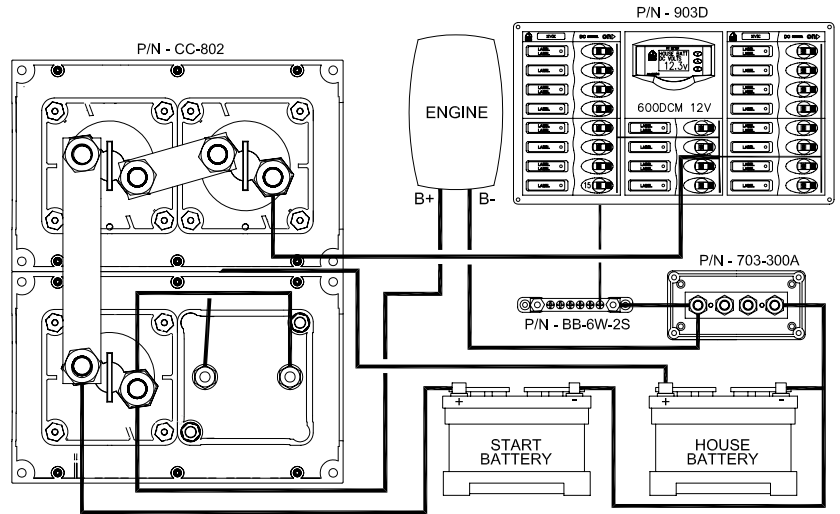
The 80-700-0054-00 offers the same features as the CC-802.

The VSR and Emergency parallel switch are combined into one voltage-sensitive switch, and that switch is able to be remote-operated.

Fewer components, more compact.

The layout allows all cables to be attached from the bottom of the cluster.

For features of the voltage sensitive relay, see page 181.



Item #	Dimensions			
	L x H x D mm		L x H X D in	
	Module	Cut-out	Module	Cut-out
CC-801	166 x 106 x 55	146 x 86	6.5 x 4.2 x 2.2	5.75 x 3.4
CC-802	166 x 212 x 55	126 x 192*	6.5 x 8.3 x 2.2	5.75 x 7.5*
80-700-0054-00	233 x 106 x 55	213 x 86	9.2 x 4.2 x 2.2	8.5 x 3.4

* Single hole only.



CC-801

- The CC-801 incorporates a version of our very successful 714-100A cluster (see page 183).
- The CC-801 is supplied pre-wired with back cover and with a CC-J joiner to allow it to be combined with other modules.
- The CC-801 is supplied standard in charcoal with light grey wave strip. Other trim colors are available for volume OEM orders.



CC-802

The CC-802 incorporates a version of our very successful single engine battery switch cluster (page 185).

The CC-802 is supplied loosely assembled with links and joiners to allow it to be assembled in either the vertical or horizontal orientation as shown in illustrations.

Full wiring instructions are supplied to allow pre assembly for both orientations.



CC-802

CONTOUR CONNECT PANELS

Twin Outboard, Three Battery Banks



CC-803N



CC-803N

The CC-803N incorporates a version of our very successful dual engine battery switch cluster (page 185).

The CC-803N is supplied with cables to allow for horizontal or vertical configurations.

The components can also be easily removed and reconfigured if the factory layout does not suit your application.

Item #	Dimensions			
	L x W x H mm		L x W X H in	
	Module	Cut-out	Module	Cut-out
CC-803N	223 x 212 x 55	213 x 86*	9.2 x 4.2 x 2.2	8.5 x 3.4*
80-700-0055-00	223 x 212 x 55	213 x 86*	9.2 x 4.2 x 2.2	8.5 x 3.4*
CC-804	166 x 106 x 55	146 x 86	6.5 x 4.2 x 2.2	5.75 x 3.4

MARINE SYSTEMS MANAGEMENT



CC-804

The CC-804 is equipped to cover essential circuits requirements (bilge, pumps etc) and is fitted with one 50 A CB for DC mains or treatment systems. It is also supplied with a 135 A 185 Series CB for anchor windlass.

The CC-804 compliments the other modules for either single or dual engine installations.



80-700-0055-00

The 80-700-0055-00 offers the same features as the CC-803N. The VSR and Emergency parallel switch are combined into one voltage-sensitive switch, and that switch is able to be remote-operated. Fewer components, more compact.

The layout also allows all cables to be attached from the bottom of the cluster.

Installation diagrams are available on our website: bepmarine.com

CONTOUR CONNECT PANELS



CC-810

The CC-810 is supplied standard with 3 x 701-PM battery switches pre-assembled. Ideal for installing alongside any other Contour Connect Modules.



CC-811PR

The CC-811PR can be mounted as a stand alone panel or can be attached to other Contour Connect Panels using a CC-J joiner (supplied with panel). Supplied with 2 x 10 A and 2 x 15 A toggle or push-reset CBs and Set-CC-1 label sheet (see page 206).

Dimensions - All Units This Page				
Item #	L x W x H mm		L x W X H in	
	Module	Cut-out	Module	Cut-out
CC-801	166 x 106 x 55	146 x 86	6.5 x 4.2 x 2.2	5.75 x 3.4
CC-810	233 x 106 x 55	213 x 86	9.2 x 4.2 x 2.2	8.5 x 3.4
CC-811PR	101 x 106 x 55	82 x 86	4 x 4.2 x 2.2	3.5 x 3.4

The CC-BLANK will cover an unused hole in CC-1 and CC-2. Attached from the rear of the panel, it allows for expanding with other options at a later date.



CC-BLANK

Panels can be joined together to create a clean and compact system.



CC-810

CC-811PR

The CC-12VRC allows a DC outlet socket to be placed within the Contour Connect panels. It will fit into the CC-1, CC-2 or CC-5 panels.



CC-12VRC



CC-811T

CC-801

CONTOUR CONNECT PANELS



CC-805T

The CC-805T is supplied pre-wired with one battery switch, 2 x 10 A and 2 x 15 A toggle circuit breakers. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals.



CC-805PR

The CC-805PR is supplied pre-wired with one battery switch, 1 x 5 A, 2 x 10 A and 1 x 15 A push reset circuit breakers. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals.



CC-806PR

The CC-806PR is supplied pre-wired with one selector battery switch, 1 x 5 A, 2 x 10 A and 1 x 15 A push reset circuit breakers. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals.



CC-807T

The CC-807T is supplied pre-wired with 2 x 5 A, 2 x 10 A, 3 x 15 A and 1 x 20 A toggle CBs. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals. An economical 8 way circuit breaker panel option. Stackable for vertical or horizontal mounting.



CC-807PR

The CC-807PR is supplied pre-wired with 2 x 5 A, 2 x 10 A, 3 x 15 A and 1 x 20 A push reset circuit breakers. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals. Suitable for essential circuits where circuit breaker needs to be left on. Ideal for helm area giving protection for switching.



CC-807T-PR

The CC-807T-PR is supplied pre-wired with 2 x 10 A, and 2 x 15 A toggle circuit breakers and 2x 10 A and 2 x 15 A push reset circuit breakers. Supplied with SET-CC-1 label sheet (page 206) and back cover to enclose exposed terminals.

Dimensions - All Units This Page			
L x W x H mm		L x W X H in	
Module	Cut-out	Module	Cut-out
166 x 106 x 55	146 x 86	6.5 x 4.2 x 2.2	5.75 x 3.4

CONTOUR CONNECT COMPONENTS

The Contour Connect Kit set Panels are designed for applications where the OEM or panel builder wishes to construct a custom system. They're supplied as empty panels with all necessary mounting hardware, including one CC-joiner.



CC-1



The CC-1 module will house the following components:

- 701-PM Panel mount battery on/off (page 179).
- 701S-PM Panel mount battery selector switch (page 179).
- 185 Series Heavy duty circuit breakers (page 162).
(CC-HDBM must be ordered with 185 circuit breakers, one per breaker).
- 80-710-0022-00 Voltage sensitive relay (page 182).



CC-2



The CC-2 module will house the following components:

- CLB series (push reset) Carling circuit breakers (page 162).
- Toggle Magnetic Hydraulic Airpax® Carling circuit breakers (page 161).



CC-3



The CC-3 module will house the following components:

- CLB series (push reset) Carling circuit breakers (page 162).
- Toggle Magnetic Hydraulic Airpax® Carling circuit breakers (page 161).



CC-5

The CC-5 module will house all the same components as the CC-1.

CONTOUR CONNECT COMPONENTS



709-300/BD

709-300/BD Flexible links are supplied pre-connected with spare links for different orientations (horizontal or vertical) of Contour Connect panels. Must be ordered separately when ordering CC Kitset panels.



NCB-CC

NCB-CC Link bar between circuit breakers. Same bar fits toggle or push reset CBs. Bar can be cut to bring multiple feeds to circuit breakers. Supplied with 800 Series panels or CC-Kitset panel.



708-42.5

708-42.5 Solid terminal links supplied pre-connected with spare links for different orientations (horizontal or vertical) of Contour Connect panels. Must be ordered separately when ordering CC Kitset panels.

MARINE SYSTEMS MANAGEMENT

Flexible Links		
Item #	Link (mm x mm, g)	Terminals (mm, mm)
LD-6R-120-CE	6 x 120, 10	6, 10
LD-6R-150-BD	6 x 150, 10	6, 10
LD-6R-210-BD	6 x 210, 10	6, 10
LD-6R-300-BD	6 x 300, 10	6, 10
709-150/BD	25 x 150, 4	6, 10
709-250/BD	25 x 250, 4	6, 10
709-300/BD	25 x 300, 4	6, 10
709-150/DD	25 x 150, 4	2 x 10
709-250/DD	25 x 250, 4	2 x 10
709-300/DD	25 x 300, 4	2 x 10

Solid Links	
Item #	Application
708-42.5	For horizontal linking of battery switches in the same panel
708-70.0	For horizontal linking of battery switches studs between 2 separate panels
708-107	For vertical linking of battery switches between panels



CC-3WS/CH

The Contour Connect panels are supplied standard. Wave strips can be ordered separately and are supplied in pairs of top and bottom strips. Available in single, double, and triple lengths.

BEP™ CB Panel Mount

The CC-HDBM module must be ordered separately if ordering BEP™ 184 & 185 series circuit breakers. Mounting hardware for CB and panel attachment is supplied with module.



CC-HDBM



ATC Fuse Holders

The BEP™ ATC Fuse Holder provides compact, easy access to fuses with the design integrity only BEP can offer.

- Allows for multiple fuse holders and bus bars to be joined together, increasing the number of circuits protected
- Fuse holder inputs can be linked together to form a single continuous fuse holder
- Includes patented Contour Lock system, see-thru clip-on cover and label set (see page 207)
- Available with screw terminals or quick connect terminals
- Max. current/circuit: 30 A;
Max. current/block: 100 A;
Max. voltage: 32 V DC;
Base & cover material: polycarbonate
- Positions for spare fuses
- ATC Fuse holder: 80 x 90 x 47 mm (3.1 x 3.6 x 1.9 in)
- ATC Bus bar: 35 x 90 x 47 mm



ATC-6W



BB-LINK17MM

ATC Fuse Holders and Bus Bars		
Item #	Description	Pack
ATC-6W/B	6 Way fuse holder screw terminals/with cover	Bulk 24/pack minimum order OEM use only
ATC-6WQC/B	6 Way fuse holder Quick Connect/with cover	Bulk 24/pack minimum order OEM use only
ATC-6W	6 Way fuse holder screw terminals/with cover and link	Display (blister pack)
ATC-6WQC	6 Way fuse holder Quick Connect/with cover and link	Display (blister pack)
80-712-0039-01	6 Way bus/ with 5 mm input stud, cover, joiners	Bulk 24/pack minimum order OEM use only
80-712-0039-00	6 Way bus/ with 5 mm input stud, cover, joiners	Display (blister pack)

ATC Bus Bar

The expandable ATC negative Bus uses the BEP™ Contour Lock system to allow it to be joined to the ATC fuse holder. This keeps wiring tidy and conveniently located. Current rating 100 A.

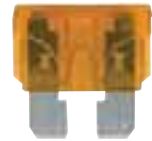


80-712-0039-00



ATC Fuses

Fuses available 3-30 A
Interrupt capacity: 1000 A DC
Maximum voltage 32 V DC



ATC Fuses	
Item #	Rating (A)
J03A	3
J05A	5
J7.5A	7.5
J10A	10
J15A	15
J20A	20
J25A	25
J30A	30

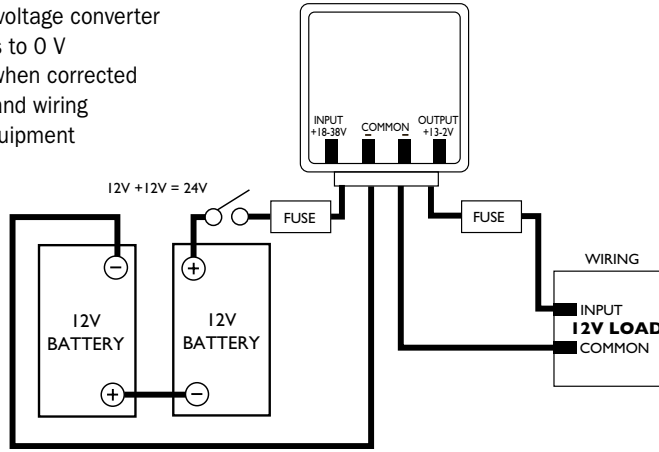
ACCESSORIES

MARINE SYSTEMS MANAGEMENT

DC Converter

Ideal for running 12 V DC electronics (I.E. HF/SSB Radios, high power audio, TV's, and appliances) off 24 V DC electrical systems, the DC Converter range is the compact, efficient solution to stepping down the load.

- Compact, lightweight 24-12 V DC-DC converter
- High efficiency (>90%) switchmode voltage converter
- Short circuit protected: output drops to 0 V
- Reverse polarity protected: reverts when corrected
- Fast shutdown protects equipment and wiring
- Does not rely on fuses to protect equipment
- Case floating (no DC connection)
- LED state indicators
- Crimp on cable connectors and clip-on mounted bracket supplied
- EMC compliant – As/NZS 2064



Specifications

Item #	mm L x 75 x 32	in L x 2.9 x 1.25	Weight (g)	Input (V)	Output (V)	Continuous Load (A)	Peak Load (A)	No Load (mA)
DCVR-10A	90	3.5	212	15 - 38	13.2	10	14	< 15
DCVR-20A	160	6.25	343	18 - 38	13.2	20	24	< 15

Not recommended for use with halogen lights

Spare Parts for Sprayproof panel range, rated 20 A DC (see page 171 and 173)

Item #	Type	Operation
SW-32111	Switch	on/off
SW-32113	Switch	on/on
SW-32114	Switch	on/off/on
SW-32115	Switch	(on)off/ momentary
SW-32120	Switch	(on)off(on) momentary
SW-32123	Switch	on/off/on double pole
SW-M331	Boot	Splash proof cover
WAFH-14	—	Fuse holder
12VPG	Plug	16 A
54-27C4	—	Remote buzzer



54-27C4
Remote buzzer for matrix range



WAFH-14
Inline ATC fuseholder



SW-32111



SW-M331

BATTERY DISTRIBUTION ACCESSORIES

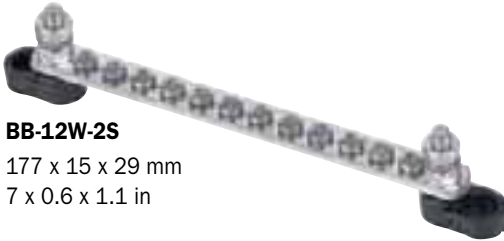
Bus Bars

- Now with easy-fit covers to ABYC standards, with polarity ID
- 4 mm (5/32") stainless steel screws with shakeproof washers
- 2 x 6 mm (1/4") input studs
- Tin-plated, brass-insulated mounting bases with recessed mounting holes to avoid accidental shorts on aluminum surfaces
- Supplied standard with all BEP™ AC & DC control panels
- Display pack versions supplied with cover

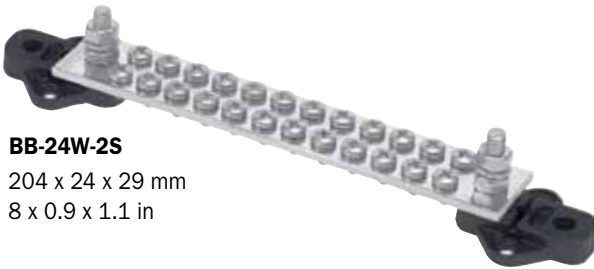
Bus Bars					
Item #	Pack Type	Bus Type	Output screws (4 mm / 5/32")	Input studs (6 mm / 1/4")	Rating (A)
BB-6W-2S/DSP	Display	Single	6	2	100
BB-12W-2S/DSP	Display	Single	12	2	100
BB-24W-2S/DSP	Display	Single	24	2	150
BB-6W-2NC/DSP	Display	Double	2 x 2	2 x 6 way	100
BB-12W-2NC/DSP	Display	Double	2 x 12	2 x 12 way	100
BB-4S-150A/DSP	Display	4-way	1 x 4	4 x 6 mm (1/4 stud)	150
BB-6W-2S	Bulk	Single	6	2	100
BB-12W-2S	Bulk	Single	12	2	100
BB-24W-2S	Bulk	Single	24	2	150
BB-6W-2NC	Bulk	Double	2 x 2	2 x 6 way	100
BB-12W-2NC	Bulk	Double	2 x 12	2 x 12 way	100



BB-6W-2S
117 x 15 x 29 mm
4.6 x 0.6 x 1.3 in



BB-12W-2S
177 x 15 x 29 mm
7 x 0.6 x 1.1 in



BB-24W-2S
204 x 24 x 29 mm
8 x 0.9 x 1.1 in



BB-12W-2NC
173 x 42 x 29 mm
6.8 x 1.7 x 1.13 in



BB-6W-2NC
113 x 42 x 29 mm
4.45 x 1.7 x 1.1 in



BB-4S-150A/DSP
138 x 35 x 29 mm
5.4 x 1.4 x 1.1 in

Covers

- Flame-resistant flexible plastic
- Color-coded for polarity
- Unique push-on fit
- Supplied standard with bus bars when ordered in display packs (for bulk packaging ordered separately)



Bus Bar Covers, 6 W

Item #	Description
BBC-6WR	Positive
BBC-6WBK	Negative



Bus Bar Covers, 12 W

Item #	Description
BBC-12WR	Positive
BBC-12WBK	Negative



Bus Bar Covers, 24 W

Item #	Description
BBC-24WR	Positive
BBC-24WBK	Negative

BATTERY DISTRIBUTION ACCESSORIES

Insulated Studs & Covers

- Made with high temperature plastic bases
- Stud covers push securely over the threaded stud covering to ABYC standards
- Dual studs deal for +ve / -ve connections, branch circuits, windlass or inverter installations.
- Covers supplied with display versions.

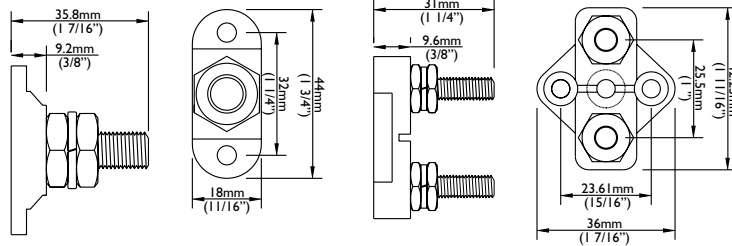


ISC-10BK-S black
ISC-10R-S red

Reducing sleeve for 8 mm studs, supplied in display packs. **Order separately.**



IS-10MM-8MM
Designed for Yamaha engine installations where the positive cable is supplied with a 10 mm (3/8") lug and the negative cable is supplied with an 8 mm (5/16") lug.



MARINE SYSTEMS MANAGEMENT

Single Studs			
Item #	Pack Type	Stud Size (mm / in)	Polarity
IS-6MM-1R/DSP	Display	6 / 1/4	Positive
IS-6MM-1/DSP	Display	6 / 1/4	Negative
IS-8MM-1R/DSP	Display	8 / 5/16	Positive
IS-8MM-1/DSP	Display	8 / 5/16	Negative
IS-10MM-1R/DSP	Display	10 / 3/8	Positive
IS-10MM-1/DSP	Display	10 / 3/8	Negative
IS-6MM-1R	Bulk	6 / 1/4	Positive
IS-6MM-1	Bulk	6 / 1/4	Negative
IS-8MM-1R	Bulk	8 / 5/16	Positive
IS-8MM-1	Bulk	8 / 5/16	Negative
IS-10MM-1R	Bulk	10 / 3/8	Positive
IS-10MM-1	Bulk	10 / 3/8	Negative

Dual Studs		
Item #	Pack Type	Stud Size (mm / in)
IS-10MM-2/DSP	Display	2 x [10 / 3/8]
IS-10MM-2/L/DSP	Display	2 x [10 / 3/8] linked
IS-10MM-8MM/DSP	Display	1 x [10 / 3/8], 1 x [8 / 5/16]
IS-6MM-2/DSP	Display	2 x [6 / 1/4]
IS-10MM-2	Bulk	2 x [10 / 3/8]
IS-10MM-2/L	Bulk	2 x [10 / 3/8] linked
IS-10MM-8MM	Bulk	1 x [10 / 3/8], 1 x [8 / 5/16]
IS-6MM-2	Bulk	2 x [6 / 1/4]

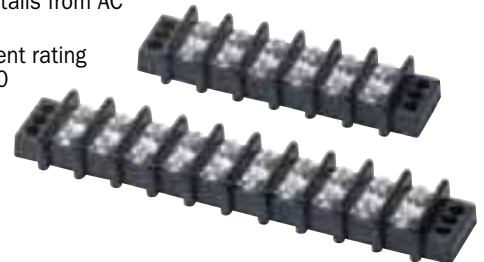
Stud Covers		
Item #	Pack Type	Description
ISC-10R	Bulk	Red positive 10 mm
ISC-10BK	Bulk	Black negative 10 mm
ISC-6-2	Bulk	Double 6 mm

Terminal blocks

Ideal for isolated connections up to 30 A. Suitable for connecting tails from AC and DC panels.

Base material: Phenolic; Current rating 30 A; Max. voltage rating: 300 V AC/DC; Screw size: 6.3 mm (0.25 in)

TB-118-6P 6 connections
TB-118-10P 10 connections





Terminal Links

The 708 links are designed for space saving interconnections of terminals when battery distribution modules are linked together. Four standard solid links are available for interconnection of the 701 battery switch with other Battery Distribution products and two larger links which are intended for the heavy duty battery switch.

708 Terminal Links		
	Distance between centers, Hole diameter	
Item #	mm	in
708-42.5	42.5, 10	1.7, 3/8
708-54.5	54.5, 10	2.2, 3/8
708-64.5	64.5, 10	2.6, 3/8
708-68.5	68.5, 10	2.7, 3/8
708-62.0	62.0, 12	2.45, 1/2
708-102	102, 12	2.45, 1/2



ATC Fuses

Fuses available: 3-30 A
Interrupt capacity: 1000 A DC
Maximum voltage: 32 V DC



ATC Fuses		ATC Fuses	
Item #	Rating (A)	Item #	Rating (A)
J03A	3	J15A	15
J05A	5	J20A	20
J7.5A	7.5	J25A	25
J10A	10	J30A	30

Maxi-Blade Fuses

Fuses available: 30-80 A
Interrupt capacity: 1000 A DC
Maximum voltage: 32 V DC



Maxi-Blade Fuses		
Item #	Pack Type	Rating (A)
BFHD-30A	bulk	30
BFHD-40A	bulk	40
BFHD-50A	bulk	50
BFHD-60A	bulk	60
BFHD-70A	bulk	70
BFHD-80A	bulk	80
BFHD-30A/DSP	display	30
BFHD-40A/DSP	display	40
BFHD-50A/DSP	display	50
BFHD-60A/DSP	display	60
BFHD-70A/DSP	display	70
BFHD-80A/DSP	display	80



Heavy Duty Fuse Holders

704-HDBFH Dual Fuse Holder – housed in same double case as the 700 series products. Stackable with single or double fuse holders. 138 x 69 x 50 mm (5.3 x 2.75 x 2 in)

702-HDBFH Single Fuse Holder – housed in the same single case as the 700 series products. Stackable with single or double fuse holders. 69 x 69 x 50 mm H (2.75 x 2.75 x 2 in)

An economical way of fusing heavy loads 30-80 A. Ideal for battery charger outputs or mains feeds. 6 mm (1/4") studs accept ring terminals and cables up to 25 mm² (4 gauge). Fuse is clamped between tinned brass clamps for positive connection. Covers enclose exposed terminals to meet ABYC standards. Fuse holder part numbers are for display packed product. **For Bulk packed product add B to part number.**

Item #	Pack Type	Description
704-HDBFH	display	Dual Fuse Holder
702-HDBFH	display	Single Fuse Holder
704-HDBFHB	bulk	Dual Fuse Holder
702-HDBFHB	bulk	Single Fuse Holder

HDBFH Inline Heavy Duty Fuse Holder

For installations where space is tight and fuse needs to be installed inline with the cable. Supplied with 8 mm (8G) tails for inline connections. An economical solution to heavy duty fusing. 80 x 55 x 15 mm (3.15 x 2.15 x .6 in)



HDBFH

NEW Maxi Fuse Holder

An economical way of fusing heavy loads 30-80 A. Ideal for battery charger outputs or mains feeds. 6 mm (1/4") studs accept ring terminals and cables up to 25 mm² (4 gauge). Fuse is clamped between tinned brass clamps for positive connection. Covers enclose exposed terminals to meet ABYC standards. 71 x 53 x 36 mm (2.8 x 2 x 1.42 in)

702-MFH	display
702-MFHB	bulk



BATTERY DISTRIBUTION ACCESSORIES



Distribution Stud

The Contour Distribution Stud allows terminating of heavy duty cables for one or more connections. Contour Lock housing has removable side plates which allows for connections from all sides.

Stud size: 10 mm (3/8 in); 69 x 69 x 50 mm (2.75 x 2.75 x 2 in)

702



Dual Distribution Stud

Designed specifically for transom areas for connecting battery cables from outboards. It also has many other applications where heavy duty positive and negative connections need to be terminated.

(702-2S/L same dimensions as 702-2S including link bar same as IS-10MM-2/L - see page 198)

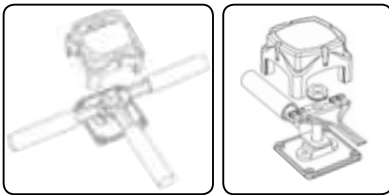
702-2S



Secondary Bus

Fitted to Distribution Stud 702 allows for small wire connections without cluttering main stud. Terminal screws 4 mm (1/8 inch).

702SB



Four Way Distribution Stud

The 704-4S was designed for multiple heavy duty connections which need to be isolated from each other. This model completes the range of heavy duty connectors and meets ABYC standards for exposed terminals.

Stud size: 4 x 10 mm (3/8 in); 138 x 69 x 50 mm (5.3 x 2.75 x 2 in)

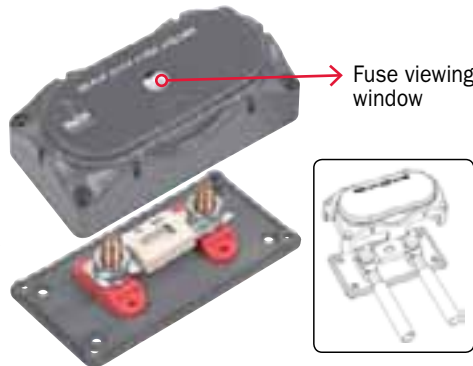
704-4S

Fuse Holder Heavy Duty

Allows fusing of heavy duty accessories between 80-500 A. Mounted in Contour lock mouldings with removable sides. Meets ABYC Standards for exposed terminals.

Stud size 10 mm (3/8 in); 138 x 69 x 50 mm (5.3 x 2.75 x 2 in)

704-ANL



ANL Fuse

Ignition protected

Tin plated

Visible fuse status window

6000 A interrupt capacity

Maximum voltage 32 V DC



IP250A

Specifications				
Item #	Pack Type	mm		Stud Size mm, in
		L x W x H	L x W x H	
702	display	69 x 69 x 50	2.75 x 2.75 x 2	10, 3/8
702-2S	display	69 x 69 x 50	2.75 x 2.75 x 2	2 x (10, 3/8)
704-4S	display	138 x 69 x 50	5.3 x 2.75 x 2	4 x (10, 3/8)
704-ANL	display	138 x 69 x 50	5.3 x 2.75 x 2	10, 3/8
702B	bulk	69 x 69 x 50	2.75 x 2.75 x 2	10, 3/8
702-2S/B	bulk	69 x 69 x 50	2.75 x 2.75 x 2	2 x (10, 3/8)
704-4S/B	bulk	138 x 69 x 50	5.3 x 2.75 x 2	4 x (10, 3/8)
704-ANLB	bulk	138 x 69 x 50	5.3 x 2.75 x 2	10, 3/8

The patented Contour Locking System is an innovative feature that allows for multiple battery management components to be connected to each other providing for a clean finished installation. These locking tabs can be found on battery switches, heavy duty buss bars, fuse holders, distribution studs and breaker modules.

ANL Fuse Specifications		
Item #	Pack Type	ANL Fuselinks Rating (A)
IP80A	display	80
IP100A	display	100
IP150A	display	150
IP200A	display	200
IP250A	display	250
IP300A	display	300
IP425A	display	425
IP500A	display	500
IP80/DSP	display	80
IP100/DSP	display	100
IP150/DSP	display	150
IP200/DSP	display	200
IP250/DSP	display	250
IP300/DSP	display	300
IP425/DSP	display	425
IP500/DSP	display	500



Link
Insulation
Partition

Multi purpose Bus Bar (Rated 100 A)

Allows for Bus bars to be separated using insulation partition as supplied (as illustrated) or Bus bars can be combined using the link supplied. For DC negative & positive common or separated, or AC Neutral Earth (linked or separate)

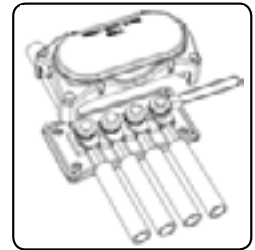
Multi-purpose Bus Bar		
Item #	mm	in
BB-6W-2	138 x 69 x 50	5.75 x 2.75 x 2
Stud size	Terminal screws	Rating (A)
6 mm (1/4")	4 mm (5/32")	100

703-300A



Distribution Bus

Allows multiple terminations for heavy duty negative or positive connections. Modular sizing with Contour Lock housing allows easy grouping and meets ABYC standards for exposed terminals.



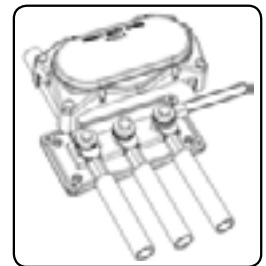
Use the 708-64.5 link (page 199 for 708 link bar reference chart) for optional expansion on either the 703-300A or the 703-500A.

703-500A



Distribution Bus

Designed to take loads from Heavy Duty Starter Circuits. Taller cover allows for more bulky cables and lugs.



Specifications					
Item #	Pack Type	mm	in	Stud Size mm, in	Rating (A)
703-300A	display	138 x 69 x 50	5.4 x 2.75 x 2	4 x (10, 3/8)	300
703-500A	display	138 x 69 x 75	5.4 x 2.75 x 2.9	3 x (10, 3/8)	500
703-300A/B	bulk	138 x 69 x 50	5.4 x 2.75 x 2	4 x (10, 3/8)	300
703-500A/B	bulk	138 x 69 x 75	5.4 x 2.75 x 2.9	3 x (10, 3/8)	500

BATTERY DISTRIBUTION ACCESSORIES



Circuit Breaker Module

Provides 3 CBs ideal for medium duty loads, like waste treatment systems and electric toilets. Designed to separate these loadings from the main DC panel, avoiding voltage spikes. Supplied standard with 1 x 50 A and 2 x 25 A B Series CBs in a Contour Lock housing for easy modulation. Extra CBs available (page 161).
138 x 69 x 75 mm (5.5 x 2.75 x 2.9 in)
Labels ordered separately: SET-714.

707



705

Contour Circuit Breaker HD

Allows switchable protection for heavy duty circuits like Windlasses or Davit winches using Busman Heavy Duty thermal circuit breakers (page 162). Modular sizing with Contour Lock housing allows easy grouping. LED to indicate circuit is on. Five standard ratings available.

Contour Circuit Breaker HD
All 138 x 69 x 75 mm
(5.3 x 2.75 x 3")

Item #	Pack Type	Rating (A)
705-50A	display	50
705-80A	display	80
705-100A	display	100
705-135A	display	135
705-150A	display	150
705-50A/B	bulk	50
705-80A/B	bulk	80
705-135A/B	bulk	135



24hr Service Circuit Breaker Module (4 W)

Consists of one 5 A and three 15 A push to reset Carling CLB Series thermal CBs. Suitable for essential circuits such as bilge pump, auto float switch supplies and stereo memory circuits. The push to reset function ensures essential 24hr circuits cannot be switched off inadvertently. This is contained in the contour lock double module. For spare circuit breakers see page 162.
Labels: SET-714 Dims: 138 x 69 x 75 mm (5.3 x 2.75 x 3")

- 706-4W display
- 706-4WB bulk

24hr Essential Circuit Module

Designed for smaller systems where only 2 circuit breakers are required. Supplied with 2 x 10 A Carling CLB Series circuit breakers – push to reset. Dims: 69 x 69 x 70 mm (2.75 x 2.75 x 2.75")

706-2W display



Ammeter Shunt Enclosure

Provides a protective housing for shunt termination meeting ABYC standards. Shunts ordered separately (see page 151).

- Digital large: 450 A - 50 mV
- Analog small: 50 A - 50 mV, 100 A - 50 mV, 150 A - 50 mV

711 Ammeter Shunt Enclosure Specifications

Item #	mm	in	Description
711L	138 x 69 x 50	5.4 x 2.75 x 2	Takes 2 small or one large shunt

LABELS – CIRCUIT BREAKER PANELS

ACCESSORIES

SET-1N

Accessories
Anchor Light
Auto Pilot
Bilge Pump
Cabin Lights
Cabin Lights
Cockpit Lights
Compass Lights
DC Outlets
Depthsounder
Freezer
Freshwater Pump
GPS
Instruments
LPG Control
Mast Light
Navigation Lights
Saltwater Pump
Shower Drain Pump
Spare
Spotlight
Spreader Light
Steaming Light
Stereo
Trim Tabs
VHF
Winch
Wiper

BAIT TANK PUMP

SET-2N

Bait Tank Pump
Bilge Pump Aft
Bilge Pump Forward
Bilge Pump Mid
Bilge Pump Port
Bilge Pump Starboard
Blower
Boarding Light
Cabin Lights Aft
Cabin Lights Fwd
Cabin Lights Mid
Cabin Lights Port
Cabin Lights Starboard
Deck Wash Pump
Electric Toilet
Engine Room Lights
Fridge
Horn
Nav Lt's Port
Nav Lights Starboard
Panel Lights
Radar
Saloon Lights
SSB
Start
Stern Light
Stop
Tri Light

12 V OUTLETS

SET-3N

12V Outlets
24V Outlets
Aft Deck Light
Bilge Auto Man.
Bow Lights
Docking Lights
Emergency Parallel
Engine Alarm
Engine Blowers
Extraction Fan
Flood Lights
Fore Deck Light
Galley Lt
Generator Lights
Holding Tank Pump
House Batteries
Lazerette Light
Port
Radio Battery
Search Light
Starboard
Start Batteries
Step Light
Strobe Light
Toilet Lt
Weather Fax
Windex Light
Window Washers

AFT LIGHTS

SET-4N

Aft Lights
Bedroom/Converter
Davit Winch
Engine Alternator
Fire System
Fish Finder
Fishing Light
Galley/Bath
House Alternator
Intercom
Load
Locker Light
Mid Wiper
Mid Lights
Mizzen Spreader Light
Plotter
Port Wiper
Preheat
Sole Light
Heater Fans
Starboard Wiper
Sub Main
Sump Pump
Tank Room Lights
Toilet Pump
Towing Light
TV/Stereo
Walvac

AC MAINS

SET-5N

AC Mains
AC Outlets
AC Outlets
Air Conditioning
Battery Charger
Cook Top
Dishwasher
Dive Compressor
Dryer
Frequency
Genset
Heater
Hotwater Cylinder
Ice Maker
Inverter
Inverter Outlets
Microwave
Oven
Refrigeration
Reverse Polarity
Ships Power
Shore Power
Trash Compactor
TV
Video
Washing Machine
Waste Master
Water Maker

AC MAINS

SET-6N

AC Mains
Accessories
Anchor Wash
Automatic
Autopilot
Auxiliary
Bilge Auto Manual
Bilge Lights
Boom Furl
Bridge Lights
Burglar Alarm
Cabin Fan
CB Radio
Cell Phone
Computer
DC Mains
Fuel Transfer
Galley Fan
Hatch Controls
Hydraulics
Loud Hailer
Macerator
Manual
Night Lights
Pelmet Lights
Solar Panel
Stove
TV Antenna

AFT PEAK LIGHT

SET-7N

Aft Peak Light
Deck Flood Lights Fwd
Deck Flood Lights Aft
Deck Lights
Deck Lights Port
Deck Lights Starboard
Deck Lights Forward
Deck Lights Aft
Fishing Lights
Fishing Lights White
Fishing Lights Red
Fishing Lights Green
Fish Room Lights
Fish Room Pump
Fore Deck Light
Focsle Light
Mast Flood Lights Fwd
Mast Flood Lights Aft
Net Recorder
Not Under Command
NUC Lights
Plotter
Port Flood Lights
Shower Lights
Stbd Flood Lights
Toilet Fan
Toilet Light
Winch Flood Lights

ANCHOR LIGHT

SET-8N

Anchor Light
Baragraph Power
Cabin Fans
Cabin Fans Fwd
Cabin Fans Aft
Courtesy Lts
Courtesy Lts Fwd
Courtesy Lts Mid
Courtesy Lts Aft
Diesel Heater
Fire System
Fuel Pump
Hailer
Lectrasan
Lectrasan Fwd
Lectrasan Stbd
Port Engine Controls
Port Ignition
Sat Com
Shower Light
Saloon Lights
Spare
Spare
Stabilizer
Stbd Engine Controls
Stbd Ignition
Toilet Light
Waste Treatment

BOILER/HEATER

SET-9N

Boiler / Heater
Bow Thruster
DC/DC Converter
Deck Lights Forward
Decklights Aft
Decklights Mid
Decklights Upper
Defroster
Galley Lights
Grey Water Pump
Guest State Lights
Head Pump 1
Head Pump 2
Master State Lights
Nav Lights
Oil Pump
Pilot House Lights
Saloon Lights
Search Light
Spare
Spare
Stereo
Trim Tab Control
V-Berth Lights
VHF Lower
VHF Upper
Wash Down Pump
Windlass

AIR COMPRESSOR

SET-10N

Air Compressor
Air Con Galley
Air Con Guest Room
Air Con Master State
Air Con Pilot House
Air Con Salon
Air Con Saloon
Air Con State Room
Air Con V-Berth
Air Conditioning
Air Conditioning 1
Air Conditioning 2
Air Conditioning 3
Central Vacuum
Charger Generator
Charger House
Charger Inverter
Compactor
Engine Room Fans
Hot Circ Pump
Ice Maker Lower
Ice Maker Upper
Outlets Engine Room
Outlets External
Outlets Galley
Outlets Lower Deck
Outlets Upper Deck
Water Heater

12-12 V REDUCER

SET-12N

24-12V Reducer
Aerator
Ballast Aft
Ballast Control
Ballast Fwd
Black Tank Aft
Black Tank Fwd
Black Water Pump
Boom Light
Bridge Lights
Bridge Supply
Dining Lights
Fire Alarm
Flow Alarm
Interior Lights
Luff Light
Modem
Nav Area Fan
Outlets Aft
Outlets Fwd
Outlets Mid
Outlets Port
Outlets Stbd
Port Engine
Stbd Engine
Step Lights
Strobe
Riding Light

LABELS – CIRCUIT BREAKER PANELS

- AFT BILGE ALARM
- 210KHz TX
- 12 V OUTLETS FLYBRIDGE
- AC OUTLETS AFT
- 24 HOUR CIRCUITS
- 27 MEG

SET-13N
 Aft Bilge Alarm
 Bilge Alarm
 Bilge Alarm Test
 Bilge Auto
 Bilge Lights
 Bilge Manual
 Bilge Pump Auto/
 Manual
 Fwd Bilge Alarm
 High Water Alarm
 Mid Bilge Alarm
 Port Aft Bilge Alarm
 Port Aft Bilge Auto
 Port Aft Bilge Manual
 Port Fwd Bilge Alarm
 Port Fwd Bilge Auto
 Port Fwd Bilge Manual
 Port Mid Bilge Alarm
 Port Mid Bilge Auto
 Port Mid Bilge Manual
 Stbd Aft Bilge Alarm
 Stbd Aft Bilge Auto
 Stbd Aft Bilge Manual
 Stbd Fwd Bilge Alarm
 Stbd Fwd Bilge Auto
 Stbd Fwd Bilge Manual
 Stbd Mid Bilge Alarm
 Stbd Mid Bilge Auto
 Stbd Mid Bilge Manual

SET-14N
 210KHz TX
 33KHz TX
 Aft Hold Light
 Cockpit Freezer
 Engine Controls
 Fridge/Freezer
 Fire Pump
 Fluxgate Compass
 Flybridge Freezer
 Fuel Gauge
 Fuel Transfer Port
 Fuel Transfer Stbd
 Fwd Hold Light
 Gantry Lights
 Holding Tank Port
 Holding Tank Stbd
 Masthead Light
 Pilot Light Red
 Pilot Light White
 Port Fuel Filter
 Rudder Indicator
 Stbd Fuel Filter
 Steering
 Toilet Aft
 Toilet Fwd
 Towing Light Amber
 Towing Light White
 Tuna Tubes

SET-15N
 12v Outlet Flybridge
 Arch Lights
 Bilge Pump Clutch
 Cabin Heater
 Compass
 Dry Head Pump
 Demister
 Engine Clutch Pump
 Flybridge Hatch
 Flybridge Wipers
 Freezer Clutch
 Fwd Stateroom Lights
 Greywater Pump 1
 Greywater Pump 2
 Guest Cabin Stereo
 Inmarsat
 Instrument Lights
 Instruments Flybridge
 Instruments Pilothouse
 Master Head Lights
 Nav Area Lights
 Overhead Lights
 Overhead Saloon Lights
 Saloon Wipers
 Security System
 Underfloor Lights
 24v DC Mains
 Bow Bilge High Water

SET-16N
 AC Outlets Aft
 AC Outlets Aft Cabin
 AC Outlets Cockpit
 AC Outlets Deck
 AC Outlets Fwd
 AC Outlets Fwd Cabin
 AC Outlets Galley
 AC Outlets Guest Cabin
 AC Outlets Mid
 AC Outlets Port
 AC Outlets Salon
 AC Outlets Saloon
 AC Outlets Staterooms
 AC Outlets Stbd
 AC Outlets Wheelhouse
 Aircon Aft
 Aircon Aft Deck
 Aircon Cabin
 Aircon Fwd
 Aircon Fwd Deck
 Aircon Helm
 Aircon Pump
 Aircon Port
 Aircon Stbd
 Airhandler Fwd
 Stateroom
 Airhandler Mstr
 Stateroom
 Airhandler Pilothouse
 Airhandler Saloon

SET-17N
 24 Hour Circuits
 Aft Bilge Pump Auto /
 Man
 Aft Head
 Alarm Mute
 Depth / Speed
 Electronics
 Engine Alarm
 Fans
 Fwd Bilge Pump Auto /
 Man
 Fwd Head
 Galley / Head Vent
 Galley Fridge
 Gas Stove
 Gauges
 Head Pump
 Level Indicator
 Lights
 Mid Bilge Pump Auto /
 Man
 Nav & Inst Lights
 Oil Pressure
 Pt Engine
 Pt Engine Start / Stop
 Stbd Engine
 Stb Engine Start / Stop
 Sum Log
 Synchronizer
 Water Temp
 Windshield

SET-18N
 27 Meg
 Aft Holding Tank
 Aft Water Heater
 Cabin Outlets
 Cockpit Fridge
 DC Mains 1
 DC Mains 2
 Dehumidifier
 DHD
 Engine Blower
 Engine Room Outlets
 Entertainment
 Flybridge Main
 FWD Holding Tank
 FWD Water Heater
 Galley
 Gas Solenoid
 Generator
 GFCI Outlet
 Hatch Lifter
 Helm Main
 Hour Meter
 Laundry
 LPG/Cooktop
 Navigation
 Range
 TV /DVD
 UHF

- 12 V BATTERY CHARGER
- 12 V AUX HORN
- BOILER/HEATER
- AIR CON FLYBRIDGE
- CABINE AVANT
- AUXILIARE 1

SET-19N
 12V Battery Charger
 24hr Bilge Pump
 24V Battery Charger
 12V Battery Charger
 Bilge Pump Port Fwd
 Bilge Pump Port Mid
 Bilge Pump Stbd Aft
 Bilge Pump Stbd Fwd
 Bilge Pump Stbd Mid
 Boarding Platform
 Bulwark Lights
 Bunk Lights
 Cable Master
 Desalinator
 Dishwasher
 Electric Windows
 Engine Controls
 Macerator
 Oil Pump
 Pitch Control
 Port Air Con
 Port Engine
 Sonar
 Storerom Lights
 Spa
 Stbd Air Con
 Stbd Engine
 TV

SET-20N
 12V Aux Horn
 Aft Fridge
 Alternator
 Anchor Winch
 Bathroom Fan
 Bathroom Outlets
 Bridge Supply
 Docking Lights
 Engine Room Bilge
 Alarm
 Fax
 Fish Finder
 Holding Tank Gauge
 Icemaker
 Inverter/Charger
 Lake Water
 Master Head
 RCD
 Reset
 Salon Lights
 Shaver Outlets
 Sounder
 Speed
 Sum Log
 Toilet Port
 Toilet Stbd
 TV lift
 Wind Instruments

SET-22N
 Alarms
 CCTV
 Cockpit Fridge
 Communications
 Control Max 2.0
 Deck Lights
 Earth Leakage Lights
 Emergency Parallel
 Engine Room Main
 Equipment Room
 Flybridge Lights
 Fresh Water Pump Port
 Fresh Water Pump Stbd
 Genset Start
 Genset Stop
 Grill
 Head/Galley Vent
 HF Radio
 Ignition Start
 Mid Hold Lights
 Radio Light
 Radios
 Refrigerator
 Reverse Polarity Test
 UHF Radio
 VHF Radio
 Wheelhouse Lights
 Wine Cooler

SET-23N
 Air Con Flybridge
 Air Con Fwd
 Air Con Port
 Air Con Stbd
 Berth Lights
 Blower
 Cabin Lights Main
 Cooling Pump 1
 Cooling Pump 2
 Discharge
 Discharge
 Discharge
 Discharge
 Discharge
 Emergency Lights
 Gallery Fridge
 Helm Lights
 Macerator
 Master Cabin Lights
 Port Engine Controls
 Port Engine Controls
 Port Engine Controls
 Quartz Lights
 Stbd Engine Controls
 Stbd Engine Controls
 Stbd Engine Controls
 Stereo Memory
 Storage Bin Pump
 Waterblaster

SET-FRENCH
 Cabine Avant
 Cabine Babord
 Cabine Tribord
 Dessalinisateur
 Divers
 ECL Interieur
 Essuie-Glace
 Feu De Hune
 Feu De Mouillage
 Feu De Pont
 Feux De Navigation
 Flaps Trim Tabs
 GPS
 Groupe D'Eau
 Guindeau
 Instruments
 Pilote Automatique
 Pompe De Cale
 Prise 12V
 Refrigerateur
 Salle De Bain
 Salle Machine
 Sondeur
 Stereo
 Table A Carte
 Timonerie
 Ventilateur De Cale
 VHF

SET-FRENCH 2
 Auxiliaire 1
 Auxiliaire 2
 Avertisseur
 Cabin 2
 Cabin 3
 Cabine I
 Centrale Nav
 Chauffage
 Chauffe-Eau
 Confort
 Congelateur
 Divers
 Eclairage Babord
 Eclairage Carre
 Eclairage Nacelle
 Eclairage Tribord
 Electronique
 Feu Tricolore
 Hi-Fi
 Micro-Ondes
 Pompe Babord
 Pompe De Lavage
 Pompe Douche
 Pompe Tribord
 Radar
 Spots
 Toilettes
 Winch

LABELS – SPRAYPROOF/BATTERY MANAGEMENT PANELS

CSP6

ANCHOR LIGHT

SET-2SP

Anchor Light
Bilge Auto Man
Boom Light
Cabin Light
Cockpit Lights
Compass Light
Deck Lights
Depth Sounder
E/R Blower
Freezer
Hot Tub Light
Hot Tub Pump
Instruments
Locker Lights
Nav Lights
Port Nav Lights
Port wiper
Shower Drain Pump
Spare 1
Spare 2
Spare 3
Stbd Nav Lights
Stbd Wiper
Steaming Light
Stern Light
Sumlog
Transom Lights
Tri Light

CSP6

ACCESSORIES

SET-1SP/F

<Mouillage Navigation>
Accessories
Accessories
Aerateur
Appliques De Cockpit
Appliques Interieures
Avertisseur
Essuie-Glace 1
Essuie-Glace 2
Essuie-Glace 3
Feu De Mouillage
Feu De Navigation
Frigo
GPS
Groupe D'Eau
Instruments
Lecteurs De Cartes
Pilote Automatique
Pompe Cale <Auto Manuel>
Pompe De Cale
Pompe De Lavage
Pompe De Vidange
Prises De Courant
Radio
Sondeur
Spots
Ventilateur
Winch

900-6WP

NAVIGATION LIGHTS

SET- LBL-WP

Accessories
Aerator
Anchor Lights
Autopilot
Bait Tank Pump
Bilge Pump
Blower
Cabin Lights
Cockpit Lights
DC Outlets
Deck Wash
Depth Sounder
Freshwater Pump
Fridge
GPS
GPS
Horn
Inst. Lights
Instruments
Log
Navigation lights
Radar
Spare
Spot Lights
Stereo
Stern Light
Trim Tabs
VHF
Wiper

NOTE:

The complete range of BEP labels are listed in a quick reference table on our website:

bepmarine.com

Interior series
switch plates



CMP-6WP

FRESHWATER PUMP

SET- LBL-CMP

Accessories
Aerator
Anchor Lights
Autopilot
Bait Tank Pump
Bilge Pump
Blower
Cabin Lights
Cockpit Lights
DC Outlets
Deck Wash
Depth Sounder
Freshwater Pump
Fridge
GPS
GPS
Horn
Inst. Lights
Instruments
Log
Navigation lights
Radar
Spare
Spot Lights
Stereo
Stern Light
Trim Tabs
VHF
Wiper

800-MS1-4

24 HOUR LIGHTS

SET-MSP3

24 Hour Lights
Bow Bilge Pump
Bow bilge Override
Bow Thruster
Cathodic Protection
Charts/Sounder
Cockpit Main
CO Detector
Cockpit Fridge
Electronics Main
Electric Controls
Electric Head
Genset Battery Charger
Hatch Lifter
Helm Main
Head Macerator
Port Battery Charger
Port Engine Blower
Port Controls
Saloon Mains
Stbd Controls
Stereo
Stereo Amplifier
Stbd Battery Charger
Stbd Engine Blower
Wiper Mid
Wiper Port
Wiper Stbd
Accessories
Controls

800-MS1-4

24V HOUSE
VOLTMETER FEED

SET-MSP4

24V House Voltmeter Feed
Bilge Alarm
Bilge Pump 24 hr
Bilge Pump Aft High Water
Bilge Pump Fwd High Water
Bilge Pump Mid High Water
Bilge Pumps
Bilge Pumps Main
Flybridge 12V Mains
Flybridge 24V Mains
Genset Blower
High Water Alarm
House Battery Charger
House Battery Meter
House Main
Lower 12V Mains
Lower 24V Mains
Port Aft Bilge Pump
Port Batter Meter
Port Fwd Bilge Pump
Port Mid Bilge Pump
Shower Sump
Stbd Aft Bilge Pump
Stbd Battery Meter
Stbd Fwd Bilge Pump
Stbd Mid Bilge Pump
Toilet
Twin Disk
Twin Disk Port
Twin Disk Stbd

706 - 707

WINCH

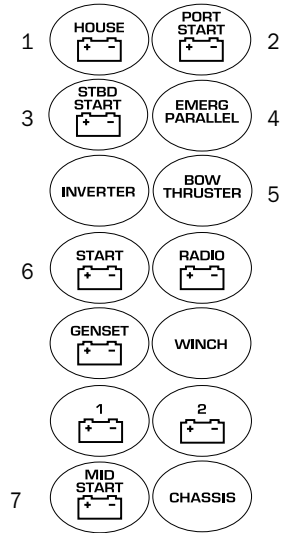
SET-714

Anchor Winch
Bilge Pump Aft
Bilge Pump Fwd
Bilge Pump Mid
Bilge Pump Port
Bilge Pump Starb
Bow Thruster
Davit Winch
DC Mains 1
DC Mains 2
Halyard Winch
Head 1
Head 2
Holding Tank
Inverter
Memory Circuits
Security System
Sheet Winch
Spare
Waste Treatment 1
Waste Treatment 2

LABELS – BATTERY SWITCHES/CONTROL CENTER/CONTOUR CONNECT

Battery Switches 701-720

713



Some labels can be purchased separately under the following item numbers

- 1 **713-HB**
- 2 **713-PS**
- 3 **713-SS**
- 4 **713-EP**
- 5 **713-BT**
- 6 **713-SB**
- 7 **713-MS**

SET-715



SET-715 contains the 3 most commonly requested labels out of set 713 without the need to purchase a full label set.

Heavy Duty Circuit Breaker Modules

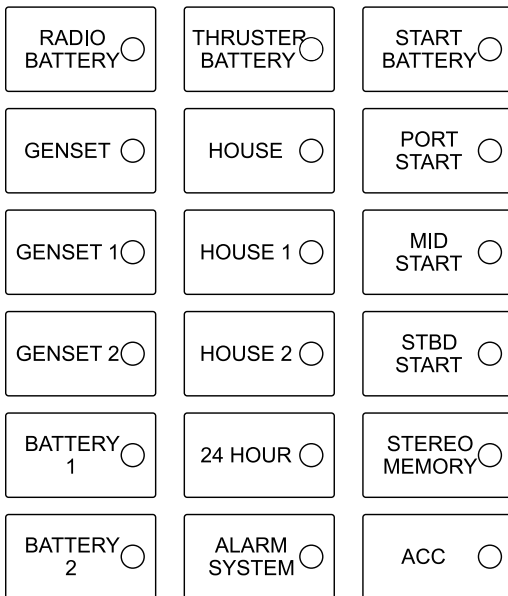
SET-CC-A



SET-CC-A labels are supplied standard with any 800 series module containing the heavy duty Busman circuit breaker.

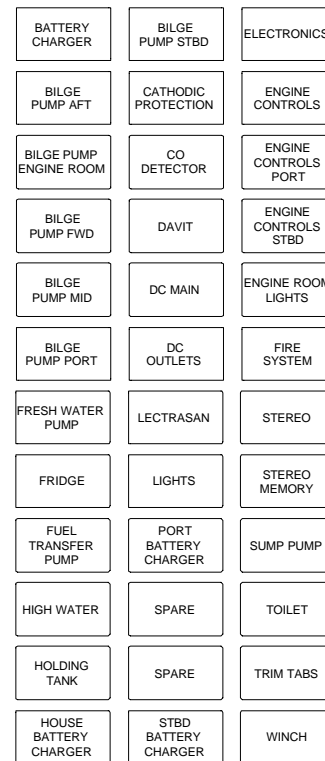
Battery Control Center

SET-CC-BCC-1



Circuit Breaker Modules

SET-CC-1



SET-CC-1 labels are supplied standard with any 800 series module containing toggle or push reset circuit breakers.

LABELS – GENERATION 2/MICRO/INTERIOR PANELS

Spray-Proof Panels Generation II (page 172)

LABEL SET SET-G2-1



ACCESSORIES
AERATOR
ANCHOR LT
BAIT TANK
BILGE PUMP
AUTO B/P MAN
BLOWER
CABIN LIGHTS
COCKPIT LTS
DC OUTLETS
DECK WASH
DN WINCH UP
ELECTRONICS
ENGROOM LTS
FLOOD LIGHTS



FW PUMP
FRIDGE
GPS
HORN
INST. LIGHTS
INSTRUMENTS
NAV LIGHTS
RADIO
SW PUMP
SPOT LIGHTS
UP PORT DN
UP STBD DN
WIPER

LABEL SET SET-G2-2



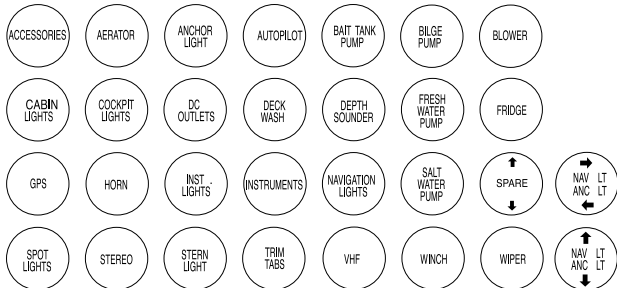
B/PUMP PORT
B/PUMP STBD
B/PUMP FWD
B/PUMP MID
B/PUMP AFT
B/PUMP ENG RM
COMPASS LT
DECK LTS
STEAMING LT
NAV LTS PT
NAV LTS STBD
STEP LTS
STERN LT
WIPER PT
WIPER MID



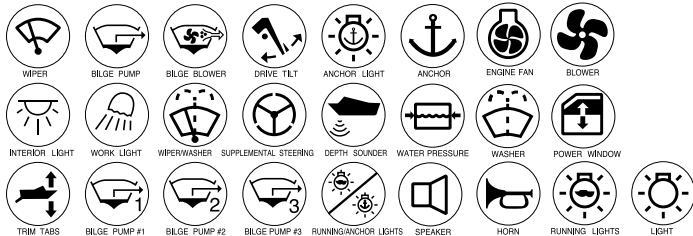
WIPER STBD
WASHERS
FREEZER
H/TANK PUMP
SUMP PUMP
LOCKER LTS
PANEL LTS
TRI LT
BOW LTS
SHOWER LT
SHOWER PUMP
SPARE
SPARE

Sprayproof Switch Panels - Micro

LBL-MIC1



LBL-MICSYM



Contour Interior Series Monitor Panels

SET-1001



SET-1002



REFERENCE CHARTS

Voltage Drop, Cable Size & Length Reference Charts

ABYC specs ask for 3% maximum voltage drop [VD] for navigation lights, switch board feeders, bilge blowers and electronic equipment. Other circuits ie motors and general lighting can have a maximum 10% VD.

The chart shows conductors in an ambient temperature of 30°C. Engine room temperatures are assumed at 50°C. This requires a rating decrease of 15% ampacity.

Example 1: A 10 A WG cable in a 12 V circuit has a total cable run of 40 feet from the battery to the load and back.

Table A Shows that the maximum amperage this cable can carry without exceeding a 3% voltage drop is 5 A.

If a 10% Voltage drop is acceptable, Table B shows that this rises to 25 A. Because of the relatively long cable run, the voltage drop is the limiting factor in cable sizing.

Example 2: A 12 V bilge pump draws 8 A and is situated 30' from the battery, so the total cable run is 60'.

To select a cable that will keep the voltage drop below 3%, a builder would use the 12 V columns in Table A, and look down the left hand column to 10 A (the closest reading above 8 A). The numbers to the right are AWG sizes based on total cable runs. For 60' 6 AWG is listed in this case.

To convert meters to feet, divide meter measurement by 0.305

AWG	Sq mm	Max wire Amps for non engine room Apps. 90 Deg Insul	Max wire Amps for engine room Apps. 90 Deg Insul	Ohms/1000ft	Ohms/m
18	0.823	20	16	6.480	0.021000
16	1.310	25	21	4.000	0.013200
14	2.080	30	25	2.530	0.008290
12	3.310	40	33	1.750	0.005210
10	5.260	55	45	0.980	0.003280
8	8.360	70	57	0.620	0.002060
6	13.300	100	82	0.400	0.001300
4	21.100	135	111	0.240	0.000815
2	33.600	180	148	0.157	0.000513
1	42.400	210	172	0.127	0.000407
1/0	53.500	245	201	0.099	0.000323
2/0	67.400	285	234	0.077	0.000256
3/0	85.000	330	271	0.062	0.000203
4/0	107.000	385	316	0.049	0.000161

Table A: CONDUCTOR SIZES FOR 3 PERCENT DROP IN VOLTAGE																		12 VOLTS	
Total current on circuit in Amps	(Length of conductor from source of current to device and back to source - Feet)																		
	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150		160
5	18	16	14	12	12	10	10	10	8	8	8	6	6	6	6	6	6	6	6
10	14	12	10	10	10	8	6	6	6	6	4	4	4	4	2	2	2	2	2
15	12	10	10	8	8	6	6	6	4	4	2	2	2	2	2	1	1	1	1
20	10	10	8	6	6	6	4	4	2	2	2	2	1	1	0	0	0	0	2/0
25	10	8	6	6	6	4	4	2	2	2	1	1	0	0	2/0	2/0	2/0	2/0	3/0
30	10	8	6	6	4	4	2	2	1	1	0	0	0	2/0	2/0	3/0	3/0	3/0	3/0
40	8	6	6	4	4	2	2	1	0	0	2/0	2/0	3/0	3/0	3/0	4/0	4/0	4/0	4/0
50	6	6	4	4	2	2	1	0	2/0	2/0	3/0	3/0	4/0	4/0					
60	6	4	4	2	2	1	0	2/0	3/0	3/0	4/0	4/0	4/0						
70	6	4	2	2	1	0	2/0	3/0	3/0	4/0	4/0								
80	6	4	2	2	1	0	3/0	3/0	4/0	4/0									
90	4	2	2	1	0	2/0	3/0	4/0	4/0										
100	4	2	2	1	0	2/0	3/0	4/0											

Table B: CONDUCTOR SIZES FOR 10 PERCENT DROP IN VOLTAGE																		24 VOLTS	
Total current on circuit in Amps	(Length of conductor from source of current to device and back to source - Feet)																		
	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150		160
5	18	18	18	18	18	16	16	14	14	14	14	12	12	12	12	10	10	10	10
10	18	18	18	16	16	14	14	12	12	10	10	10	10	8	8	8	8	8	8
15	18	16	14	14	12	12	10	10	8	8	8	8	8	6	6	6	6	6	6
20	16	14	14	12	12	10	10	8	8	8	8	6	6	6	6	6	6	6	6
25	16	14	12	12	10	10	8	8	6	6	6	6	6	4	4	4	4	4	2
30	14	12	12	10	10	8	8	6	6	6	6	4	4	4	2	2	2	2	2
40	14	12	10	10	8	8	6	6	6	4	4	2	2	2	2	2	2	2	2
50	12	10	10	8	8	6	6	4	4	4	2	2	2	2	2	1	1	1	1
60	12	10	8	8	6	6	4	4	2	2	2	2	2	1	1	1	0	0	0
70	10	8	8	6	6	6	4	2	2	2	2	1	1	1	0	0	0	2/0	2/0
80	10	8	8	6	6	4	4	2	2	2	1	1	0	0	0	2/0	2/0	2/0	2/0
90	10	8	6	6	6	4	2	2	2	1	0	0	0	0	2/0	2/0	2/0	3/0	3/0
100	10	8	6	6	4	4	2	2	1	1	0	0	0	2/0	2/0	2/0	3/0	3/0	3/0

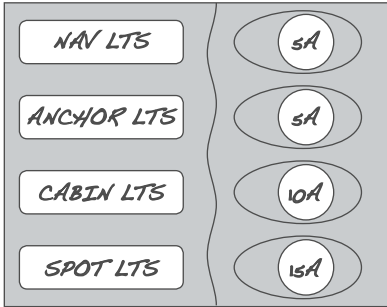
Table B: CONDUCTOR SIZES FOR 10 PERCENT DROP IN VOLTAGE																		24 VOLTS	
Total current on circuit in Amps	(Length of conductor from source of current to device and back to source - Feet)																		
	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	150		160
5	18	18	18	18	18	18	18	18	16	16	16	16	14	14	14	14	14	14	12
10	18	18	18	18	18	16	16	14	14	14	12	12	12	12	12	10	10	10	10
15	18	18	18	16	16	14	14	12	12	12	10	10	10	10	8	8	8	8	8
20	18	18	16	16	14	14	12	12	10	10	10	10	10	8	8	8	8	8	6
25	18	16	16	14	14	12	12	10	10	10	10	8	8	8	8	6	6	6	6
30	18	16	14	14	12	12	10	10	8	8	8	8	8	6	6	6	6	6	6
40	16	14	14	12	12	10	10	8	8	8	6	6	6	6	6	4	4	4	4
50	16	14	12	12	10	10	8	8	6	6	6	6	6	6	4	4	4	4	2
60	14	12	12	10	10	8	8	6	6	6	6	4	4	4	4	2	2	2	2
70	14	12	10	10	8	8	6	6	6	6	4	4	4	2	2	2	2	2	2
80	14	12	10	10	8	8	6	6	6	6	4	4	2	2	2	2	2	2	2
90	12	10	10	8	8	6	6	6	4	4	4	2	2	2	2	2	2	1	1
100	12	10	10	8	8	6	6	4	4	4	2	2	2	2	2	1	1	1	1

MARINE SYSTEMS MANAGEMENT

Custom Panel Layouts

Although the panels shown in this catalog are our standard range, there are a number of changes that can be made to fit the needs of custom and production boatbuilders. For example, a panel can

be made up with eight circuit breakers, four systems in operation lights plus a meter, or a panel can consist of a mixture of analog and digital meters if required.



(See label index pages 203 – 204)

Circle your selections:

Voltage:	AC	DC	12V	24V	110V	230V
Backlighting:	12V	24V				
Meters:	Yes	Blank				
Digital:	ACSM (page 165)		DCSM (page 164)		600-VM3	600-TG 600-SOM
Meter Position:	1	2	3	4		

Anlg Volts DC:	8-16	16-32			Meter Position:	1	2	3	4
Anlg Amps DC:	0- 50	0-100	0-150		Meter Position:	1	2	3	4
Anlg Volts AC:	0-150	0- 300			Meter Position:	1	2	3	4
Anlg Amps AC:	0-60	0-100AAC			Meter Position:	1	2	3	4

If the panel involves a total custom layout, as described above, a specific part number will be applied to that panel and quoted accordingly.

If the design is unable to be achieved we will notify the customer.

Alternatively a customer may request a standard panel with circuit breakers laid out to their requirements with labels factory fitted. This involves a personalized layout charge with the following part numbers applying, eg:

901V is ordered as NPF-901V.

902A-12V-12V is ordered as NPF-902A-12V-12V

When ordering personalized panels see page 204–207 for our label selection. We can also do specific label sets, priced per-job.

METER POSITION 1		METER POSITION 2		METER POSITION 3		METER POSITION 4	
	CONTROL ON▶		CONTROL ON▶		CONTROL ON▶		CONTROL ON▶

INDEX

INDEX

10001	123	102150	35	104910	35	108899	36
100010	35	102182	19	104950	35	108910	36
100050	35	102199	35	104SPP	14	108925	36
1000-6W	174	102210	35	105010	35	108999	36
1000-AM10	174	10224	121	105050	35	109002	36
1000-AM20	174	102250	35	105099	35	109010	36
1000-AM50	174	102310	35	10524	120	109025	36
1000-VM-12V	174	102350	35	105SPP	14	109050	36
1000-VM-24V	174	102410	35	106010	35	109099	36
10010	122	102425	35	106025	35	109310	36
10011	122	102510	35	106040	35	109399	36
100110	35	102550	35	106099	35	10MSPPXP	21
100150	35	102610	35	106110	35	11001	123
10017XL	121	102710	35	106140	35	1100-BK	175
100210	35	102810	35	106210	35	1100-BK-TS	175
10023	123	102825	35	10624	121	1100-CH	175
10028XLP	121	102850	35	106240	35	1100-GD	175
10029XLP	121	102899	35	106310	35	1100-WH-TS	175
10031	118	102910	35	106325	35	11017XLP	121
100310	35	102950	35	106340	35	11018XLP	121
10035	122	102999	35	106399	35	1101-BK	175
100350	35	102N	18	106410	35	1101-BK-TS	175
10036	123	103010	35	106510	35	1101-CH	175
100410	35	103050	35	106610	35	1101-GD	175
100450	35	103099	35	106710	35	11024	118
100510	35	103910	35	106802	35	11028XLP	121
100610	35	103ELN	18	106810	35	11029XLP	121
100710	35	103RN	18	106825	35	11031	118
10079	117	103RN.OEM	18	106840	35	11034	118
10080	116	103RNX	22	106899	35	11035	122
100810	35	103RNXPK	22	106910	35	11050	119
10082	117	104010	35	106940	35	11058	119
100850	35	104025	35	106999	35	11059	119
100910	35	104050	35	107010	35	11060	119
100950	35	104099	35	107025	35	11064	119
10098	122	104110	35	107099	35	11066	119
10099	122	104150	35	108002	36	11079	117
100EL	18	104199	35	108010	36	11080	116
100R	18	104210	35	108025	36	11088	118
101010	35	104250	35	108050	36	11090	118
10102	121	104299	35	108099	36	11091	118
10104	120, 121	104310	35	108110	36	11095	117
10105	120	104350	35	108150	36	11096	116
101050	35	104399	35	108210	36	11098	122
10106	121	104410	35	108250	36	11099	122
10107	120	104450	35	108310	36	110A	15
10108	120	104510	35	108325	36	110R	18
10121	120	104550	35	108399	36	111002	36
10122	121	104610	35	108425	36	111010	36
101910	35	104710	35	108510	36	111025	36
102010	35	104810	35	108802	36	111050	36
102025	35	104825	35	108810	36	11106	121
102050	35	104850	35	108825	36	11107	120
102099	35	104899	35	108850	36	111099	36

11124.....	118	113510.....	36	117910.....	36	124110.....	37
111302.....	36	113525.....	36	117920.....	36	124125.....	37
111310.....	36	113550.....	36	117A.....	15	124140.....	37
111325.....	36	113910.....	36	118002.....	36	124180.....	37
111350.....	36	113950.....	36	118005.....	36	124302.....	37
111502.....	36	114002.....	36	118010.....	36	124310.....	37
111510.....	36	114005.....	36	118015.....	36	124325.....	37
111525.....	36	114010.....	36	118502.....	36	124350.....	37
111550.....	36	114025.....	36	118505.....	36	124502.....	37
111599.....	36	114040.....	36	118510.....	36	124510.....	37
11168.....	118	114502.....	36	118515.....	36	124525.....	37
111710.....	36	114505.....	36	118905.....	36	124550.....	37
111799.....	36	114510.....	36	118A.....	15	124599.....	37
11185.....	117	114525.....	36	119002.....	36	124702.....	37
11187.....	116	114540.....	36	119005.....	36	124710.....	37
11188.....	116	114905.....	36	119010.....	36	124725.....	37
11190.....	118	114910.....	36	119502.....	36	124750.....	37
111902.....	36	114925.....	36	119505.....	36	124799.....	37
11191.....	118	114940.....	36	119510.....	36	124910.....	37
111910.....	36	115002.....	36	119902.....	36	124925.....	37
11194.....	116	115005.....	36	119905.....	36	124950.....	37
11196.....	116	115010.....	36	119910.....	36	124999.....	37
111999.....	36	115030.....	36	120710.....	38	126310.....	38
111A.....	15	115502.....	36	120905.....	38	126325.....	38
112002.....	36	115505.....	36	120910.....	38	126350.....	38
112005.....	36	115510.....	36	120925.....	38	126510.....	38
112010.....	36	115530.....	36	121110.....	38	126525.....	38
112025.....	36	115902.....	36	121125.....	38	126550.....	38
112050.....	36	115905.....	36	121140.....	38	126599.....	38
112075.....	36	115910.....	36	121180.....	38	126710.....	38
11225.....	118	115930.....	36	121310.....	38	126725.....	38
11226.....	118	115A.....	15	121325.....	38	126750.....	38
112305.....	36	116002.....	36	121350.....	38	126799.....	38
112310.....	36	116005.....	36	121510.....	38	12BKT.....	25
112375.....	36	116010.....	36	121525.....	38	12MP.OEM.....	25
112502.....	36	116025.....	36	121550.....	38	12VAD.....	25
112505.....	36	116502.....	36	121599.....	38	12VBP.....	26
112510.....	36	116505.....	36	121710.....	38	12VBP.OEM.....	26
112525.....	36	116510.....	36	121-710-1101/1.....	161	12VBPS2.....	26
112550.....	36	116525.....	36	121725.....	38	12VBPS2.OEM.....	26
112575.....	36	116902.....	36	121750.....	38	12VBR.....	26
112705.....	36	116905.....	36	121799.....	38	12VBR.OEM.....	26
112710.....	36	116910.....	36	121910.....	38	12VBRAD.....	26
112725.....	36	116925.....	36	121925.....	38	12VBRAD.OEM.....	26
112902.....	36	117002.....	36	121950.....	38	12VBRS2.....	26
112910.....	36	117005.....	36	121A.....	15	12VBRS2.OEM.....	26
112975.....	36	117010.....	36	122010.....	39	12VCP.....	26
113002.....	36	117020.....	36	122050.....	39	12VCP6.....	26
113005.....	36	117502.....	36	123705.....	37	12VCPS2.....	26
113010.....	36	117505.....	36	123710.....	37	12VRCW.OEM.....	25
113025.....	36	117510.....	36	123905.....	37	12VPG.....	25, 196
113050.....	36	117520.....	36	123910.....	37	12VPG.OEM.....	25
113502.....	36	117902.....	36	123A.....	15	12VPK.....	25
113505.....	36	117905.....	36	124102.....	37	12VRC.....	25

INDEX

INDEX

12VRC.OEM.....	25	151025.....	41	180703.....	35	189131.....	42
12VRCW.....	25	151050.....	41	180803.....	35	189134.....	42
12VRCY.....	25	151710.....	41	180903.....	35	189135.....	42
12VTR.....	28	151725.....	41	181003.....	35	189136.....	42
12VXC.....	25	151750.....	41	182103.....	35	189137.....	42
12VXT.....	25	1520BI.OEM.....	20	182203.....	35	189140.....	42
130705.....	38	152AY.....	16	182303.....	35	189141.....	42
130710.....	38	153010.....	40	182403.....	35	189144.....	42
130902.....	38	153025.....	40	182503.....	35	189145.....	42
130905.....	38	153050.....	40	182603.....	35	189146.....	42
130910.....	38	153110.....	40	182703.....	35	189147.....	42
131102.....	38	153150.....	40	182803.....	35	189303.....	39
131110.....	38	153530.....	41	182903.....	35	189800.....	42
131111.....	39	153725.....	41	183003.....	35	189802.....	42
131130.....	38	153925.....	41	184003.....	35	189834.....	42
131150.....	38	153AY.....	16	184103.....	35	189849.....	42
131151.....	39	154010.....	39	184150P-01-1.....	162	199109.....	22
131302.....	38	154030.....	39	184203.....	35	199109PK.....	22
131310.....	38	154510.....	40	184303.....	35	199110.....	22
131325.....	38	154525.....	40	184403.....	35	199110PK.....	22
131510.....	38	154710.....	39	184503.....	35	199128.....	17
131525.....	38	154AY.....	16	184603.....	35	1M32AXP.....	21
131550.....	38	155010.....	40	184703.....	35	1MSPPXP.....	21
131590.....	38	155030.....	40	184803.....	35	1RPC.....	17
131710.....	38	155050.....	40	184903.....	35	1RPC50.....	17
131725.....	38	156410.....	40	185003.....	35	200175.....	46
131750.....	38	156425.....	40	185030F-01-1.....	162	200250.....	46
131799.....	38	156450.....	40	185040F-01-1.....	162	200252.....	46
133310.....	38	156610.....	40	185040P-01-1.....	162	200258.....	46
133325.....	38	156625.....	40	185050F/DSP.....	162	200259.....	46
133510.....	38	157AY.....	16	185050F-01-1.....	162	20055.....	131
133525.....	38	158010.....	39	185050P-01-1.....	162	20056.....	131
133550.....	38	158025.....	39	185060P-01-1.....	162	200590.....	46
133590.....	38	158099.....	39	185070P-01-1.....	162	200591.....	46
133710.....	38	1591-FI.....	20	185080F/DSP.....	162	20061.....	131
133725.....	38	1591-FI.OEM.....	20	185080F-01-1.....	162	20062.....	131
133750.....	38	1591-FI.WHT.....	20	185080P-01-1.....	162	20063.....	131
141410.....	39	1591-FI.WHT.OEM.....	20	185100F-01-1.....	162	20065.....	131
141425.....	39	15M32AXP.....	21	185100P-01-1.....	162	200BIW.....	28
142410.....	41	15MSPPXP.....	21	185120P-01-1.....	162	200BIW.OEM.....	28
142425.....	41	16001-RI.....	82	185135P-01-1.....	162	201175.....	46
142499.....	41	16002-RI.....	81-83	185150F-01-1.....	162	201176.....	46
142610.....	41	16003-RI.....	83	185150P-01-1.....	162	201259.....	46
142625.....	41	162AY.....	16	186003.....	35	2018BP-12.....	27
142650.....	41	165AY.....	16	186803.....	35	2018BP-12.OEM.....	27
150510.....	41	17061.....	82	188003.....	36	2018BP-24.....	27
150525.....	41	17102.....	82	188603.....	36	2018BP-24.OEM.....	27
150BBI.....	28	17153.....	83	188803.....	36	2018BR.....	27
150BBI.OEM.....	28	17202.....	83	188903.....	36	2018BR.OEM.....	27
150BBIW.....	28	180003.....	35	189120.....	42	2018BR-MB.....	27
150BBIW.OEM.....	28	180103.....	35	189121.....	42	2018MB.....	27
150CC.OEM.....	28, 83	180303.....	35	189123.....	42	2018MB.OEM.....	27
150CCI.....	28, 83	180503.....	35	189124.....	42	2018PKG.....	27
150CCTM.OEM.....	28, 83	180603.....	35	189130.....	42	202175.....	46

202176.....	46	2102-B.....	91	220203.....	43	22219A.....	100
203100.....	46	210301.....	44	220204.....	43	222202.....	43
205BP.....	20	210302.....	44	220205.....	43	222203.....	43
205CRCN.....	20	210303.....	44	220206.....	43	222211.....	43
205CRPN.....	20	210311.....	44	220211.....	43	222212.....	43
205CRR.....	20	210312.....	44	220212.....	43	222213.....	43
20MSPPXP.....	21	210313.....	44	220213.....	43	222214.....	43
2100.....	91	210321.....	44	220214.....	43	222216.....	43
2100-B.....	91	210322.....	44	220215.....	43	222221.....	43
2101.....	91	210323.....	44	220216.....	43	222222.....	43
210100.....	45	210510.....	46	220221.....	43	222223.....	43
210110.....	45	210520.....	46	220222.....	43	222226.....	43
210120.....	45	210612.....	46	220223.....	43	222233.....	43
210130.....	45	210613.....	46	220224.....	43	222234.....	43
210140.....	45	210615.....	46	220225.....	43	222235.....	43
210150.....	45	210708.....	45	220226.....	43	222236.....	43
210161.....	45	210709.....	45	220227.....	43	222237.....	43
210162.....	45	210718.....	45	220302.....	44	22224.....	121
210163.....	45	210719.....	45	220303.....	44	222243.....	43
210164.....	45	210818.....	44	220311.....	44	222244.....	43
210165.....	45	210819.....	44	220312.....	44	222246.....	43
210166.....	45	210828.....	44	220313.....	44	22230-P.....	99, 100
2101-B.....	91	210829.....	44	220322.....	44	222313.....	44
2102.....	91	2110A.....	91	220323.....	44	222322.....	44
210201.....	43	2110A-B.....	91	22040A.....	98, 100	22240.....	100
210202.....	43	2111A.....	91	22041A.....	98, 100	2300A.....	91
210203.....	43	2111A-B.....	91	22044.....	98, 100	2300A-B.....	91
210204.....	43	2112A.....	91	22045.....	100	230100.....	45
210205.....	43	2112A-B.....	91	220612.....	46	230110.....	45
210206.....	43	211408.....	44	220615.....	46	230120.....	45
210211.....	43	211409.....	44	220708.....	45	230130.....	45
210212.....	43	211418.....	44	220709.....	45	230140.....	45
210213.....	43	211419.....	44	220719.....	45	230150.....	45
210214.....	43	211428.....	44	220818.....	44	230161.....	45
210215.....	43	211429.....	44	220819.....	44	230162.....	45
210216.....	43	211480.....	50	220828.....	44	230163.....	45
210221.....	43	211490.....	50	220829.....	44	230164.....	45
210222.....	43	220002.....	70	221408.....	44	230165.....	45
210223.....	43	220003.....	70	221409.....	44	230166.....	45
210224.....	43	220004.....	70	221418.....	44	230201.....	43
210225.....	43	220007.....	70	221419.....	44	230202.....	43
210226.....	43	220020.....	70	221428.....	44	230203.....	43
210227.....	43	220100.....	45	221429.....	44	230205.....	43
210233.....	43	220110.....	45	221480.....	50	230206.....	43
210234.....	43	22011A-P.....	100	221490.....	50	230211.....	43
210235.....	43	22011MA-P.....	100	22200.....	99, 100	230212.....	43
210236.....	43	220120.....	45	22201.....	99, 100	230213.....	43
210237.....	43	22012A-P.....	100	22208-24.....	100	230214.....	43
2102-3-B.....	91	22012MA-P.....	100	22208A.....	100	230215.....	43
210243.....	43	22014-P.....	98, 100	22209.....	100	230216.....	43
210244.....	43	220161.....	45	222110.....	45	230221.....	43
210245.....	43	220162.....	45	222161.....	45	230222.....	43
210246.....	43	220163.....	45	222162.....	45	230223.....	43
210256.....	43	220202.....	43	22218A.....	100	230224.....	43

INDEX

230225	43	242150	47	244727	47	252297	47
230226	43	242160	47	249003	45	252715	47
230227	43	242180	47	249007	45	252716	47
230233	43	242233	47	249013	45	252717	47
230234	43	242234	47	249014	45	252725	47
230235	43	242235	47	250001	69	252726	47
230236	43	242236	47	2501	94	252727	47
230237	43	242237	47	2502	94	2530	94
230243	43	242243	47	2503	94	2532	94
230244	43	242244	47	2504	94	255001	69
230245	43	242245	47	252130	47	25MSPPXP	21
230246	43	242246	47	252140	47	25PCM.OEM	12
230247	43	242253	47	252150	47	25PCM2	12
230253	43	242254	47	252160	47	25PCMW2	12
230254	43	242255	47	252170	47	260005	48
230255	43	242256	47	252180	47	260010	48
230256	43	242257	47	252190	47	260012	48
230257	43	242264	47	252231	47	260100	48
230301	44	242265	47	252233	47	2602	89
230302	44	242266	47	252234	47	260200	48
230303	44	242275	47	252235	47	2602A-12	89
230311	44	242276	47	252236	47	2602A-12-B	89
230312	44	242284	47	252237	47	2602A-24-B	89
230313	44	242285	47	252241	47	2603	89
230321	44	242286	47	252243	47	260322	48
230322	44	242294	47	252244	47	260325	48
230323	44	242295	47	252245	47	260350	48
2303A	91	242296	47	252246	47	260381	48
2303A-B	91	242297	47	252247	47	260392	48
2304A	91	242715	47	252251	47	2603-B	89
2304A-B	91	242716	47	252253	47	260505	48
230510	46	242717	47	252254	47	2606A	90
230520	46	242725	47	252255	47	2606A-B	90
230612	46	242726	47	252256	47	2607A	84
230613	46	242727	47	252257	47	2607A-B	84
230615	46	244233	47	252261	47	2608A	84
230708	45	244234	47	252264	47	2608A-B	84
230709	45	244235	47	252265	47	2610A	84
230718	45	244236	47	252266	47	2610A-B	84
230719	45	244244	47	252267	47	2611A	85
230818	44	244245	47	252271	47	2611A-1-B	87
230819	44	244246	47	252274	47	2611A-B	85
230828	44	244254	47	252275	47	2612A	90
230829	44	244255	47	252276	47	2613A	85
231408	44	244256	47	252277	47	2614A	87
231409	44	244265	47	252281	47	2620A	85
231418	44	244266	47	252284	47	2621A	88
231419	44	244285	47	252285	47	2622A	88
231428	44	244286	47	252286	47	2622A-230	90
231429	44	244295	47	252287	47	2623A	86
231480	50	244296	47	252291	47	2631A	86
231490	50	244297	47	252294	47	2632A	88
242130	47	244725	47	252295	47	2632A-230	90
242140	47	244726	47	252296	47	2633A	88

2633A-230.....	90	304448	51	306648	51	310625.....	49
2635-B	86	304503	71	306724.....	51	310699.....	49
2722-B.....	87	304506	71	306748	51	31112B	112, 114
30000	107	304602	51	306848	51	31114B.....	112, 114
300000	71	304603	51	306903	51	31116B.....	114
30002	107	304606	51	306904	51	31118B	112, 114
30004	108	304624	51	306906	51	311203.....	49
30005	108	304648	51	306924	51	31120B	112, 114
300145	52	304748.....	51	306948	51	311225.....	49
301103.....	51	304848	51	307103.....	51	31122B	112, 114
301106.....	51	304948	51	307106.....	51	31124B.....	112, 114
301124.....	51	304EL-B	7	307124.....	51	311299	49
301148	51	304EL-B.NT	7	307148.....	51	311303.....	49
301503	71	304EL-B.OEM	7	307602.....	51	311325.....	49
301506	71	304EL-BCR.....	7	307603.....	51	311399.....	49
301CRMB.....	29	304EL-BCR.OEM	7	307606.....	51	311403.....	49
301EL-B	7	304EL-BX	22	307624.....	51	311425.....	49
301EL-B.OEM	7	305103.....	51	307648.....	51	311499.....	49
301EL-B.W/L	7	305106.....	51	307902.....	51	311503.....	49
301EL-BXPK	22	305124.....	51	307903.....	51	311525.....	49
301ELCB.....	29	305148.....	51	307906.....	51	311599.....	49
302103.....	51	305602	51	307924.....	51	311603.....	49
302106.....	51	305603	51	307948.....	51	311625.....	49
302124.....	51	305606	51	309002	50	311699.....	49
302148	51	305624	51	309003	50	312203	49
303103.....	51	305648	51	309025	50	312225.....	49
303106.....	51	305948	51	309099	50	312299	49
303124.....	51	305BC	27	309102.....	50	312303	49
303148.....	51	305BP	27	309103.....	50	312325.....	49
303303	51	305BP.OEM	27	309125	50	312399	49
303348	51	305CRCN.....	18	309199	50	312403.....	49
303602	51	305CRCN.OEM	18	309202	50	312425.....	49
303603	51	305CRCN.VPK	18	309203	50	312499.....	49
303606	51	305CRCXN	22	309225	50	312503.....	49
303624	51	305CRCXNPK	22	309299	50	312525.....	49
303648	51	305CRMB	29	31012B.....	112, 114	312599.....	49
303902	51	305CRPN	18	31014B.....	112, 114	312603	49
303903	51	305CRPN.OEM	18	31016B.....	112, 114	312625.....	49
303906	51	305CRPN.VPK	18	31018B.....	112, 114	312699	49
303924.....	51	305CRR	18	310203.....	49	313203.....	49
303948	51	305CRR.OEM	18	31020B.....	112, 114	313225.....	49
303SSEL-B.....	7	305CRRB	18, 27	310225.....	49	314203.....	49
303SSEL-B.OEM	7	305CRRB.OEM	18, 27	31022B.....	112, 114	314225.....	49
303SSEL-BX.....	22	306103.....	51	31024B.....	112, 114	314299.....	49
303SSEL-BXPK.....	22	306106	51	310299.....	49	314303	49
303SSO	7	306124.....	51	310303.....	49	314325.....	49
304103.....	51	306148	51	310325.....	49	314399.....	49
304106.....	51	306503	71	310399.....	49	315203.....	49
304124.....	51	306506	71	310403.....	49	315225.....	49
304148.....	51	306524.....	71	310425.....	49	315299.....	49
304303	51	306602	51	310499.....	49	315303	49
304348	51	306603	51	310503.....	49	315325.....	49
304403	51	306606	51	310525.....	49	315399	49
304424	51	306624	51	310603.....	49	316803.....	50

INDEX

316825.....	50	33016.....	112, 113	33126S	112, 113	351232.....	53
316899.....	50	33017.....	112, 113	33130S	112, 113	351235.....	53
316903.....	50	33021B	112, 113	33132A.....	109, 111	351239.....	53
316925.....	50	33021S	112, 113	33137A.....	109, 111	351240.....	53
316999.....	50	33022	112, 113	33170A.....	109, 111	351248.....	53
317803.....	50	33022B	112, 113	33182.....	109, 110	351249.....	53
317825.....	50	33022S	112, 113	33184	109, 110	351252.....	53
317899.....	50	33023	112, 113	33184W.....	109, 111	351255.....	53
317903.....	50	33024	112, 113	33186	109, 110	351258.....	53
317925.....	50	33024B	113	33186W.....	109, 111	351272.....	53
317999.....	50	33024S	112, 113	33188	109	351275.....	53
318803	50	33025	106	33188W.....	109, 110	351282.....	53
318825.....	50	33026B	112, 113	33190	109, 110	351285	53
318899	50	33026S	112, 113	33190W.....	109, 111	351288	53
318903	50	33028B	112, 113	33192.....	109, 110	352122.....	53
318925.....	50	33028S	112, 113	33192W.....	109, 111	352182.....	53
318999	50	33030B	112, 113	33194.....	109, 110	352222	53
319803	50	33030S	112, 113	33194W.....	109, 111	352282.....	53
319825.....	50	33032A	109, 111	33196	109	352285	53
319899.....	50	33037A.....	109, 111	33196W.....	109, 110	35PCM.....	12
319903	50	33070A.....	109, 111	33505	114	36082-12.....	80
319925.....	50	33082	109, 110	33513.....	114	36082-24.....	80
319999	50	33084	109, 110	33514.....	114	36110.....	105
32000	107	33084W.....	109, 111	33515.....	114	36111.....	105
320001	69	33086	109, 110	34000	106	36180	105
32001	107	33086W.....	109, 111	34001	106	36181.....	105
32002	107	33088	109	34005	106	36202-12.....	81
326103.....	52	33088W.....	109, 110	34010.....	106	36202-24.....	81
326106.....	52	33090	109, 110	34011	106	37110.....	105
326124.....	52	33090W.....	109, 111	34015	106	37111.....	105
326148.....	52	33092	109, 110	34210.....	106	37180.....	105
326202	52	33092W.....	109, 111	350024	53, 71	37181.....	105
326603	52	33094	109, 110	350025	53, 71	374501.....	54
326606	52	33094W.....	109	35010.....	107	374502.....	54
326624.....	52	33096	109	35040	107	374505.....	54
326648	52	33096W.....	109, 110	35050	107	374602.....	54
327103.....	52	33104.....	112, 113	351122	53	374605.....	54
327106.....	52	33105.....	112, 113	351125	53	375002.....	54
327124.....	52	33106A.....	109, 111	351132	53	38000	106
327148.....	52	33107A	109, 111	351135.....	53	38001	106
327202.....	52	33110A.....	109, 111	351140.....	53	38005	106
327603.....	52	33112A.....	109, 111	351141.....	53	38010.....	106
327606.....	52	33114A.....	109, 111	351148.....	53	38011	106
327624.....	52	33115.....	112, 113	351149.....	53	400000	72
327648.....	52	33116.....	112, 113	351152	53	40018	128
328148.....	52	33117	112, 113	351155.....	53	40019	128
33004	112, 113	33121B	112, 113	351172	53	40020	128
33005	112, 113	33121S	112, 113	351175	53	40025	129
33006A	109, 111	33122B	112, 113	351182	53	40030	128
33007A.....	109, 111	33122S	112, 113	351185.....	53	40035	128
33010A.....	109, 111	33124B	113	351207.....	53	4006	95
33012A	109, 111	33124S	112, 113	351208	53	4008	95
33014A.....	109, 111	33125.....	106	351222.....	53	401122	54
33015	112, 113	33126B	112, 113	351225.....	53	401182	54

4012	95	453382	55	521126.....	58, 62	529355	61, 62
401251.....	54	453386	55	521127.....	57, 62	529361.....	61, 62
401252.....	54	453502	55	521128.....	58, 62	529362	61, 62
401255	54	453752.....	55	521129.....	57, 62	529367.....	61, 62
401312.....	54	453756.....	55	521130.....	57, 62	529368	61, 62
401372.....	54	453901	55	521140.....	59, 62	529381.....	61, 62
401375.....	54	4700CR	20	521141.....	59, 62	529385	61, 62
401432	54	4721CR.....	20	521142.....	59, 62	529386	61, 62
401502	54	4731CR.....	20	521156.....	59, 62	529387.....	61, 62
401622.....	54	500, 500A.....	100	521157.....	59, 62	529405	61, 62
401752.....	54	500A.....	96	521158.....	59, 62	529406	61, 62
4018	95	500EL.....	19	521159.....	58, 62	529407.....	61, 62
401892	54	500R	19	521160.....	59, 62	529408	61, 62
401912	54	500R.OEM	19	521161.....	59, 62	529410.....	57, 62
401932	54	501, 501A.....	100	521162.....	59, 62	529411.....	57, 62
402252	54	501A.....	96	521163.....	59, 62	529412.....	57, 62
402312	54	502, 502A	100	521164.....	59, 62	529413.....	57, 62
402372.....	54	502-1.....	96, 100	521165.....	57, 62	529414.....	57, 62
402502	54	502-2.....	96, 100	521166.....	61, 62	529416.....	57, 62
402622	54	502A.....	96	521167.....	59, 62	529417	57, 62
402752.....	54	503, 503A	100	521176.....	59, 62	529419.....	57, 62
402892	54	503-1.....	97, 100	521204	59, 62	529420.....	57, 62
403182	54	503-2.....	97, 100	521224.....	59, 62	529421.....	58, 62
403252.....	54	503A.....	97	521228.....	59	529422.....	58, 62
403312	54	505	97	521383	59, 62	529423.....	58, 62
403372.....	54	50PCM.OEM.....	12	521416	58, 62	529424.....	58, 62
403432	54	50PCM2.....	12	521816	58, 62	531015.....	60, 62
403502	54	50PCMW.OEM	12	522112.....	60, 62	531025.....	60, 62
403562	54	50PCMW2.....	12	522122.....	60, 62	531050.....	60, 62
403622	54	50SPP.....	12	522124.....	60, 62	531075.....	60, 62
403752.....	54	50SPP.OEM	12	522126.....	60, 62	531100.....	60, 62
403872.....	54	50SPPW.OEM	12	522127.....	60, 62	532025	60, 62
403892	54	510R.....	19	522128.....	60, 62	533015	60, 62
403902	54	511016.....	60, 62	522129.....	60, 62	533025	60, 62
404152.....	54	520015.....	58, 62	522130.....	60, 62	533050	60, 62
404172.....	54	520053	58, 62	522131.....	60, 62	533075.....	60, 62
404202	54	520057.....	58, 62	5262CRR	20	5366CR	20
404252.....	54	520067	59, 62	5262CRR.GRY	20	5369CR	20
404302	54	520068	59, 62	5266CR	20	5369CR.OEM	20
41018.....	128	520082	59, 62	5269CR	20	54-27C4.....	196
41020.....	128	520090	59, 62	529095	60, 62	551505.....	65
41030.....	128	520093	59, 62	529096	60, 62	551510.....	65
452251.....	55	520094	59, 62	529102.....	60, 62	551515.....	65
452255	55	520097.....	59, 62	529104.....	60, 62	551520.....	65
452381	55	520168.....	58	529168.....	61, 62	551525.....	65
452385	55	520194.....	58, 62	529200	60, 62	551530.....	65
452501.....	55	520257.....	58, 62	529300	61, 62	551540	65
452505	55	520304	59, 62	529307	61, 62	551550.....	65
452751.....	55	520906	58, 62	529333	60, 62	551605.....	65
452755.....	55	520912	58, 62	529337.....	61, 62	551610.....	65
452900	55	521003.....	59, 62	529338	61, 62	551615.....	65
452905	55	521004.....	59, 62	529340	61, 62	551620.....	65
4531001	95	521034.....	59, 62	529341.....	61, 62	551625.....	65
4531011.....	95	521076.....	59, 62	529344	61, 62	551630.....	65

INDEX

INDEX

551640.....	65	600-GD.....	168	605030.....	67	6360CRN.....	19
551650.....	65	600-GDL.....	168	605050.....	67	6360CRN.OEM.....	19
551705.....	65	600-GDRV.....	168	605070.....	67	6360CRNX.....	22
551710.....	65	600-LPG.....	168	605100.....	67	6360CRNXPK.....	22
551715.....	65	600-TGSK.....	166	605150.....	67	6361CRN.....	19
551720.....	65	600-TLM-SIF.....	166	607006.....	68	6364CRN.....	19
551725.....	65	601005.....	67	607010.....	68	6364CRN.OEM.....	19
551730.....	65	601010.....	67	607011.....	68	6365CRN.....	19
551740.....	65	601015.....	67	607012.....	68	6365CRN.OEM.....	19
551750.....	65	601020.....	67	607013.....	68	6369CR.....	19
552820.....	65	601025.....	67	607014.....	68	6369CR.OEM.....	19
552830.....	65	601030.....	67	607015.....	68	6370CR.....	19
552850.....	65	601040.....	67	607016.....	68	6371EL.....	8
553002.....	66	601050.....	67	607017.....	68	6371EL.OEM.....	8
553004.....	66	601070.....	67	607019.....	68	6371EL-B.....	8
553005.....	66	601075.....	67	607020.....	68	6371EL-B.OEM.....	8
553008.....	66	601080.....	67	607021.....	68	6371EL-BXPK.....	22
553020.....	66	601100.....	67	607022.....	68	6373EL.....	9
553021.....	66	601110.....	72	607023.....	68	6373EL.OEM.....	9
553022.....	66	601112.....	72	607122.....	67	6373EL-B.....	9
553041.....	66	601113.....	72	607123.....	67	6373EL-B.OEM.....	9
553091.....	44	601114.....	72	6079.....	29	6373ELMB.....	29
553093.....	44	601150.....	67	6079.OEM.....	29	6401CRCX.....	22
553095.....	44	601200.....	67	6080.....	29	6401CRPX.....	22
554000.....	66	601250.....	67	6080.OEM.....	29	6401EL-BX.....	22
554001.....	66	601300.....	67	608001.....	69	6402CRCX.....	22
554010.....	63	6017Y.....	20	6083CR.....	29	6402CRPX.....	22
554011.....	63	6018Y.....	20	6084CR.....	29	6402EL-BX.....	22
554012.....	63	602030.....	67	60993.....	126	65612.....	129
554016.....	63	602050.....	67	60995.....	126	65621.....	128
554022.....	63	602062.....	67	60996.....	126	65622.....	128
554024.....	63	602075.....	67	6152SPP.....	12	65623.....	128
554026.....	63	602100.....	67	6152SPP-12SC.....	12	65702.....	129
554027.....	63	602150.....	67	6152SPP-25.....	12	67510.....	126
554028.....	63	602200.....	67	6152SPPW.....	12	67607.....	129
554029.....	63	602250.....	67	6152SPPW-25.....	12	67633.....	127
554030.....	63	602300.....	67	6153SPP.....	12	67634.....	127
554032.....	63	603905.....	67	6153SPP-25.....	12	67650.....	127
554033.....	63	603910.....	67	6153SPPW.....	12	67660.....	127
554035.....	63	603915.....	67	62669.....	129	67722.....	130
554036.....	63	603920.....	67	6343EL-B.....	8	67723.....	130
554038.....	63	603930.....	67	6343EL-BCR.....	8	67900.....	125
555010.....	64	604003.....	67	6343EL-BX.....	22	67901.....	125
555022.....	64	604005.....	67	6344EL-B.....	9	67902.....	125
555025.....	64	604007.....	67	6344EL-B.NT.....	9	67903.....	125
555026.....	64	604010.....	67	6344EL-B.OEM.....	9	67904.....	124
555028.....	64	604015.....	67	6344EL-BCR.....	9	67906.....	124
555033.....	64	604020.....	67	6351EL.....	8	67907.....	124
555105.....	64	604025.....	67	6351EL-B.....	8	67933.....	126
556010.....	64	604030.....	67	6351EL-BX.....	22	67934.....	126
556022.....	64	604200.....	67	6353EL.....	9	700.....	178
556028.....	64	604300.....	67	6353EL-B.....	9	700115.....	75
600-DCM-10M.....	164	605010.....	67	6353EL-B.OEM.....	9	700151.....	53, 76
600-DCM-5M.....	164	605020.....	67	6353ELCB.....	29	700B.....	178

701.....176-178	705-135A/B.....202	720.....177, 178	7717N.....19
701007.....77	705-150A.....202	720B.....178	7717N.OEM.....19
701009.....77	705-50A.....202	720-DP.....178	7788CR.....29
701010.....76	705-50A/B.....202	720-DP/B.....178	7788CR.OEM.....29
701030.....78	705-80A.....202	720-MDO.....180	7879CR.....29
701B.....178	705-80A/B.....202	720-MDVS.....181	7879CR-FI.....29
701B-PM.....179	706-2W.....202	720-MDVS-24V.....181	7879CR-FI.OEM.....29
701-KEY.....178	706-4W.....202	721.....178	800-MS1.....176
701-KEY-EP.....178	706-4WB.....202	721B.....178	800-MS2.....176
701-MD.....180	707.....202	729488.....100	800-MS3.....176
701-MDVS.....181	708-107.....194	729489.....100	800-MS4.....176
701-MDVS-24V.....181	708-42.5.....194, 199	729491.....100	80-600-0021-00.....164
701-PM.....179	708-54.5.....199	729492.....100	80-600-0022-00.....164
701S.....178	708-62.0.....199	729493.....96, 100	80-600-0027-00.....170
701S-B.....178	708-64.5.....199	729494.....97, 100	80-600-0028-00.....170
701S-B-PM.....179	708-68.5.....199	729528.....100	80-601-0020-00.....170
701S-PM.....179	708-70.0.....194	729749-P.....81	80-601-0021-00.....170
702.....200	709-150/BD.....194	729823-P.....100	80-601-0022-00.....170
702005.....76	709-150/DD.....194	729825.....100	80-601-0023-00.....170
702006.....76	709-250/BD.....194	729827-P.....100	80-601-0024-00.....170
702010.....77	709-250/DD.....194	729828-P.....100	80-601-0025-00.....170
702015.....77	709-300/BD.....194	729829-P.....100	80-601-0026-00.....170
702017.....77	709-300/DD.....194	729830-P.....100	80-700-0047-00.....188
702024.....52, 78	71011.....104	73112.....102	80-700-0048-00.....188
702025.....78	71012.....104	73113.....102	80-700-0050-00.....187
702027.....52, 78	710-150A.....182	73312.....102	80-700-0051-00.....187
702030.....75	710-150A-B.....182	73313.....102	80-700-0052-00.....187
702033.....78	71081.....104	74012.....130	80-700-0053-00.....188
702040.....76	71082.....104	74018.....130	80-700-0054-00.....189
702050.....75	71111M.....104	74024.....130	80-700-0055-00.....190
702061.....78	71112.....104	7420CR.....29	80-701-0018-00.....181
702064.....78	71113.....104	7420CR.OEM.....29	80-707-00004-00.....151
702065.....36, 76	71181.....104	74212.....130	80-707-00005-00.....151
702-2S.....200	71182.....104	74218.....130	80-707-0004-00.....151
702-2S/B.....200	711L.....202	74224.....130	80-710-0014-00.....182
702B.....200	71212.....104	74412.....130	80-712-0039-00.....195
702-HDBFH.....199	713.....176, 206	74512.....130	80-712-0039-01.....195
702-HDBFHB.....199	71312.....104	750000.....56	80-716-0014-00.....188
702-MFH.....199	713-BT.....206	76030.....114	80-716-0015-00.....188
702-MFH-B.....199	713-EP.....206	76035.....114	80-716-0016-00.....188
702SB.....200	713-HB.....206	760375.....56	80-716-0017-00.....186
703-300A.....201	713-MS.....206	760500.....56	80-716-0018-00.....186
703-300A/B.....201	713-PS.....206	76130.....114	80-720-0018-00.....181
703-500A.....201	713-SB.....206	764998.....56	80-724-0006-00.....180
703-500A/B.....201	713-SS.....206	765000.....56	80-724-0007-00.....181
704-4S.....200	714-100A.....183, 185	765002.....56	80-911-0001-00.....140
704-4S/B.....200	715-H.....183, 185	765004.....56	80-911-0002-00.....140
704-ANL.....200	715-S.....185	765006.....56	80-911-0003-00.....140
704-ANLB.....200	715-V.....183, 185	7715CRN.....19	80-911-0004-00.....140
704-HDBFH.....199	716-H-100A.....184, 185	7715CRN.OEM.....19	80-911-0005-00.....144
704-HDBFHB.....199	716-SQ-100A.....184, 185	7715CRNX.....22	80-911-0006-00.....144
705.....202	717-100A.....185	7715CRNXPK.....22	80-911-0007-00.....146
705-100A.....202	718-100A.....185	7715ELN.....19	80-911-0008-00.....146
705-135A.....202	719-100A.....185	7715ELN.OEM.....19	80-911-0009-00.....145

INDEX

INDEX

80-911-0010-00	145	82182.....	103	901V.....	152	BB-LINK17MM	195
80-911-0011-00.....	142	82212	103	901V-AM	155	BC-FM1	160
80-911-0012-00.....	142	82312.....	103	901V-DCSM.....	154	BC-FM2	160
80-911-0013-00	143	83A.....	14	902	137	BC-FM3.....	160
80-911-0014-00.....	143	84A.....	14	902-AM.....	154, 155	BC-FM4.....	160
80-911-0016-00	149	900	137	902-DCSM	154	BC-PM1.....	160
80-911-0017-00.....	149	900-2WP.....	173	902NMH	152	BC-PM2.....	160
80-911-0018-00	150	900-2WPMOM.....	173	902NMV.....	152	BFHD-30A	199
80-911-0019-00	150	900-2WPOFO.....	173	902V-AM.....	155	BFHD-30A/DSP	199
80-911-0020-00	150	900-3WPS.....	171	902V-DCSM	154	BFHD-40A	199
80-911-0021-00.....	150	900-3WPSW.....	171	903-5	137	BFHD-40A/DSP	199
80-911-0022-00.....	150	900-4WP.....	171	903-AM.....	155	BFHD-50A	199
80-911-0023-00	150	900-4WPW.....	171	903-DCSM	154	BFHD-50A/DSP	199
80-911-0024-00	148	900-5WPS.....	171	904-AM.....	154, 155	BFHD-60A	199
80-911-0025-00	148	900-5WPSW.....	171	904-DCSM	154	BFHD-60A/DSP	199
80-911-0026-00	148	900-6WP.....	171	904NM	152	BFHD-70A.....	199
80-911-0027-00.....	148	900-6WPW.....	171	904NMH	152, 153	BFHD-70A/DSP.....	199
80-911-0028-00	148	900-AC1	158	905-AM.....	154, 155	BFHD-80A	199
80-911-0029-00	148	900-AC1-110V	158	905-DCSM	154	BFHD-80A/DSP	199
80-911-0030-00	148	900-AC2H-ACSM	159	905NM	152, 153	BL-SL-L.....	168
80-911-0031-00.....	148	900-AC2H-ACSM-110.....	159	905NMV.....	152, 153	BSP-1.....	179
80-911-0032-00.....	148	900-AC2H-AM.....	159	905V-AM.....	155	CBL-100A-DP	161
80-911-0033-00	149	900-AC2H-AM-110.....	159	905V-DCSM	154	CBL-100A-SP	161, 176
80-911-0034-00	149	900-AC2V-ACSM.....	159	906-AM.....	155	CBL-100A-TP	161
80-911-0035-00	149	900-AC2V-ACSM-110	159	906-DCSM	154	CBL-50A-DP	161
80-911-0036-00	149	900-AC2V-AM.....	159	906NMH	152, 153	CBL-50A-SP	161, 176
80-911-0037-00.....	150	900-AC2V-AM-110	159	906NMV	152, 153	CBL-60A-DP	161
80-911-0038-00	150	900-AC3-ACSM.....	159	906V-AM.....	155	CBL-60A-SP	161
80-911-0039-00	150	900-AC3-AM.....	159	906V-DCSM	154	CBL-75A-DP	161
80-911-0040-00	150	900-AC3-AM-110	159	907-AM	155	CBL-75A-SP	161, 176
80-911-0041-00.....	149	900-AC3-ASCM-110.....	159	AC-VSEN-4.....	151, 165	CBL-80A-TP.....	161
80-911-0042-00.....	149	900-AC4-ACSM.....	159	ATC-6W	195	CBS-10A-DP	161
80-911-0043-00	149	900-AC4-ACSM-110.....	159	ATC-6W/B.....	195	CBS-10A-SP.....	161
80-911-0044-00	150	900-ACCH	158	ATC-6WQC.....	195	CBS-15A-DP	161
80-911-0045-00	150, 180	900-ACCH-110V	158	ATC-6WQC/B	195	CBS-15A-DP-TC230	161
80-911-0047-00.....	148	900-ACM2-AM	158, 159	BAG	21	CBS-15A-SP.....	161
80-911-0050-00	148	900-ACM2-AM-110	159	BB-12W-2NC.....	197	CBS-20A-DP	161
80-911-0051-00.....	148	900-ACM2W	158	BB-12W-2NC/DSP.....	197	CBS-20A-DP-TC230	158, 161
80-911-0052-00.....	149	900-ACM2W-110V	158	BB-12W-2S	197	CBS-20A-SP.....	161
80-911-0057-00.....	151	900-ACM6V-AM	159	BB-12W-2S/DSP	197	CBS-25A-DP	161
80-911-0060-00	150	900-ACM6V-AM-110	159	BB-24W-2S	197	CBS-25A-SP.....	161
80-911-0061-00.....	150	900-ACM6W.....	158	BB-24W-2S/DSP	197	CBS-30A-DP	161
80-911-0062-00	150	900-ACM6W-110V	158	BB-4S-150A/DSP	197	CBS-30A-DP-TC230.....	161
80-911-0063-00	150	900-AM.....	154, 155	BB-6W-2.....	201	CBS-30A-SP	161
80-911-0064-00	140	900-BA	173	BB-6W-2NC	197	CBS-40A-DP	161
80-911-0065-00	140	900-DC	152	BB-6W-2NC/DSP	197	CBS-40A-SP	161
80A.....	14	900-RCD-16A	160	BB-6W-2S.....	197	CBS-50A-DP	161
81A.....	14	900-RCD-1X16-32A	160	BB-6W-2S/DSP.....	197	CBS-50A-DP-TC230.....	161
82011.....	103	900-RCD-2X16A	160	BBC-12WBK	197	CBS-50A-SP-IG	161
82012	103	900-RCD-2X32A	160	BBC-12WR.....	197	CBS-50A-TP / 50	161
82081	103	900-RCD-32A.....	160	BBC-24WBK.....	197	CBS-5A-SP	161
82082	103	900-SOP	173	BBC-24WR.....	197	CC-1.....	193
82112.....	103	900V-DCSM	154	BBC-6WBK.....	197	CC-12VRC	191
82181.....	103	901H	152	BBC-6WR	197	CC-2.....	193

CC-3	193	CW-T2M25.....	55	IS-8MM-1	198	N0100A	169
CC-3WS/CH.....	194	CW-T2M75.....	55	IS-8MM-1/DSP	198	N0100ACT.....	169
CC-5	193	CW-T2R2	55	IS-8MM-1R	198	N010A	169
CC-801	189, 191	CW-T2RR25	55	IS-8MM-1R/DSP	198	N0150A	169
CC-802	189	CW-T2T3R2	55	ISC-10BK.....	198	N0150ACV	169
CC-803N	190	CW-T3M25	55	ISC-10BK-S	198	N020A	169
CC-804	190	CW-T3M50	55	ISC-10R.....	198	N0300ACV	169
CC-805PR	192	CW-T3R2	55	ISC-10R-S.....	198	N050A	169
CC-805T.....	192	CW-T3RR25	55	ISC-6-2.....	198	N060ACT.....	169
CC-806PR	192	CW-T4M20.....	55	J03A	195, 199	N10863	135
CC-807PR	192	CW-T4RR20	55	J05A	195, 199	N10863DW	136
CC-807T.....	192	DCVR-10A.....	196	J10A	195, 199	N10864	135
CC-807T-PR.....	192	DCVR-20A.....	196	J15A	195, 199	N10864DW	136
CC-810	191	DM6250	74	J20A	195, 199	N10866	136
CC-811PR	191	DM6450	75	J25A	195, 199	N10867	136
CC-BLANK	191	DP PANEL.....	156	J30A	195, 199	N10869	136
CC-HDBM.....	194	ET6207	73	J7.5A.....	195, 199	N10870.....	136
CG2-2W.....	172	ET64220.....	73	JJ05A.....	171	N10873.....	136
CG2-2W-F.....	172	FD-2.....	168	JJ10A	171	N10874.....	136
CG2-2W-F-W	172	G30	17	JJ15A	171	N10963	135
CG2-2W-W.....	172	HDBFH	199	JJ20A.....	171	N10964	135
CG2-4W.....	172	HSP5	74	JJ30A.....	171	N1632DCV	169
CG2-4W-F.....	172	IP100/DSP.....	200	LABEL SET SET-G2-1	207	N20020	134
CG2-4W-F-W	172	IP100A.....	200	LABEL SET SET-G2-2	207	N20030	134
CG2-4W-W	172	IP150/DSP.....	200	LB-450-50	151, 164	N20703S	134
CG2-6W.....	172	IP150A.....	200	LBL-MIC1.....	207	N20703W.....	134
CG2-6W-F.....	172	IP200/DSP.....	200	LBL-MICSYM.....	207	N20704S	134
CG2-6W-F-W	172	IP200A.....	200	LD-6R-120-CE.....	194	N20704W.....	134
CG2-6W-W.....	172	IP250/DSP.....	200	LD-6R-150-BD	194	N20790	134
CG2-JB	172	IP250A.....	200	LD-6R-210-BD	194	N28810	135
CLB-05.....	162	IP300/DSP.....	200	LD-6R-300-BD	194	N28830	134, 135
CLB-05/DSP.....	162	IP300A.....	200	M28-DCSM.....	157	N816DCV	169
CLB-10.....	162	IP425/DSP.....	200	M32-DCSM.....	157	NC32Y-AM.....	156
CLB-10/DSP.....	162	IP425A.....	200	M4100B12R.....	23	NC32Y-DCSM	156
CLB-15.....	162	IP500/DSP.....	200	M4100C12	23	NC36L-AM	156
CLB-15/DSP.....	162	IP500A.....	200	M4100C12R.....	23	NC36L-DCSM.....	156
CLB-20.....	162	IP80/DSP.....	200	M4100P12.....	23	NC36NM	152, 153
CLB-25/DSP.....	162	IP80A.....	200	M4100R12.....	23	NCB-CC.....	194
CLB-30.....	162	IS-10MM-1	198	M44-DCSM	157	N0100A	169
CLB-40.....	162	IS-10MM-1/DSP	198	M44H-DCSM	157	N0300ACV	169
CLB-40/DSP.....	162	IS-10MM-1R	198	M5100B9R.....	23	N060ACT	169
CLB-B00T	162	IS-10MM-1R/DSP	198	M5100C9R.....	23	P-14302.....	98, 100
CLB-B00T/DSP.....	162	IS-10MM-2	198	M5100C9.....	23	P33307.....	69
CLIP	21	IS-10MM-2/DSP	198	M5100P9.....	23	PH6444TV.....	10
CLIP-01 (BLACK).....	21	IS-10MM-2/L.....	198	M5100R9.....	23	PH6444TV.OEM	10
CMP-4WP	171	IS-10MM-2/L/DSP	198	M56-DCSM	157	PH6444TVCR	10
CMP-5WPS	171	IS-10MM-8MM.....	198	MCB.....	160	PH6574TV	10
CMP-6WP	171	IS-10MM-8MM/DSP.....	198	MCB16A.....	160	PH6574TV.OEM.....	10
CSP6	173	IS-6MM-1	198	MCB32A.....	160	PH6592TV-SS.....	10
CSP6-F.....	173	IS-6MM-1/DSP	198	MCB-3WENC.....	160	PH6592TV-SS.OEM.....	10
CSP6-PTC.....	173	IS-6MM-1R	198	MCB63A.....	160	PH6597	11
CT-10-3	151, 165	IS-6MM-1R/DSP	198	ML-005BW-STC.....	99	PH6597TV.....	11
CT-HD.....	151, 165	IS-6MM-2	198	ML-005NWW	99	PH6597TV.OEM	11
CW-290.....	55	IS-6MM-2/DSP	198	ML-005WW-STC.....	99	PH6599	10

INDEX

PH6599-25	10	SET-MSP3	205
PH6599W.....	10	SET-MSP4	205
PH6600	11	SOP1	169
PH6601	11	SOP1-AL	169
PH6619	11	SOP2	169
PH6623	11	SOP2-AL.....	169
PH6629	11	SW-32111.....	196
PHTV6599.....	10	SW-32113.....	196
PHTV6599-25.....	10	SW-32114.....	196
PHTV6599W.....	10	SW-32115.....	196
RCD	160	SW-32120.....	196
RCD16A30MA.....	160	SW-32123.....	196
RCD32A30MA	160	SW-6064B3P	175
RCD63A30MA	160	SW-6064C3P	175
RV-TG	166	SW-6064D3P	175
RV-TG-2T	166	SW-CG1	172
RV-TG-3T	166	SW-CG2	172
RV-TS-5M	166	SW-CG3	172
RY504-2-30.....	16	SW-CG4	172
SA296COMP-12V.....	168	SW-CG5	172
SET- LBL-CMP	205	SW-M331.....	196
SET- LBL-WP	205	SW-RVS2.....	174
SET-1001	207	TB-118-10P	198
SET-1002	207	TB-118-6P	198
SET-10N	203	TS1.....	167
SET-12N	203	TS1-PK	167
SET-13N	204	TV6444.....	10
SET-14N	204	TV6444.OEM.....	10
SET-15N	204	TV6574	10
SET-16N	204	TV6574.OEM	10
SET-17N	204	TV6592.....	10
SET-18N	204	TV6592.OEM.....	10
SET-19N	204	TV97	11
SET-1N.....	203	TV97.OEM	11
SET-1SP/F.....	205	TVHD	10
SET-20N.....	204	U-3605	100
SET-22N	204	U-3606	100
SET-23N	204	VR2.2	168
SET-2N.....	203	WAFH-14	196
SET-2SP	205	ZIP-01 (BLACK).....	21
SET-3N.....	203		
SET-4N.....	203		
SET-5N.....	203		
SET-6N.....	203		
SET-714	205		
SET-715	206		
SET-7N	203		
SET-8N.....	203		
SET-9N.....	203		
SET-CC-1	206		
SET-CC-A.....	206		
SET-CC-BCC-1.....	206		
SET-FRENCH.....	204		
SET-FRENCH 2.....	204		



pg 164 |
AC Systems Monitor (ACSM)

pg 165 |
DC Systems Monitor (DCSM)



pg 199 |
Maxi Fuse Holder



pg 182 |
Digital Voltage Sensing Relay (DVSR)

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