BATTERY MANAGEMENT

Battery Management is central to the safe operation of a boat.

All boats and vehicles with an engine have at least one battery whose primary purpose is starting the engine and providing power for loads such as lights, pumps, and electronics. The safe switching between batteries, loads, and charge sources is achieved using products in this section.

Manual Battery Switches are commonly used on small boats or vehicles where the batteries are located near the operator, allowing the high amperage switching and the control of the switch to be the same location. On large boats or vehicles, battery switches may be mounted close to the batteries to avoid long cable runs.

Considerations When Choosing a Battery Switch

ABYC requires a battery switch on every battery bank with over 800 Cold Cranking Amps (CCA) capacity, while CE regulations state a battery switch must be fitted except in outboard powered boats with only engine starting and navigation circuits. This requirement exists so the potentially destructive energy in the batteries can be isolated in the event of electrical malfunction. A battery switch is also used in many vehicle applications when high capacity storage batteries are used for purposes other than starting an engine.

BATTERY MANAGEMENT

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Battery Switches | 30
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Battery Management Panels | 41

Scout Boats installs CZone™ digital switching and BEP battery switches as standard equipment to control vital electrical functions aboard the innovative 420 LXF.

Pro Installer Battery Switches

The Pro Installer range of premium quality battery switches offer ease and flexibility of installation, and optimal performance in the harsh marine environment. With models that offer on/off, selector and dual bank control functionalities, the switches feature improved contactor design, ergonomics that provide clear intuitive operation, an industry standard mounting footprint (Perko, Guest, Blue Sea E Series) and all switches meet global industry standards. The innovative dual bank control switch offers the functionality of three switches in one. The patent pending, EZ-Mount switch range allows wiring from the front simplifying installation and saving labor. All Pro Installer EZ-Mount switches feature a common interconnection height with the full line of Pro Installer power management products, which allow them to "cluster" with other products utilizing solid link bars. Attention to all aspects of switch function and use has created superior installation options, high power capacity and improved reliability.

All Pro Installer Switches:

- Meet global industry standards UL1107, CE and ABYC
- Ignition protected
- IP66 rated
- Removable side plates
- Ergomonic removable switch knobs

Check out how Pro Installer compares to a conventional system >

Find out more.
Watch the video.

See page 46 for more Pro Installer products to complete your cluster.

Pro Installer Standard Mount Switches

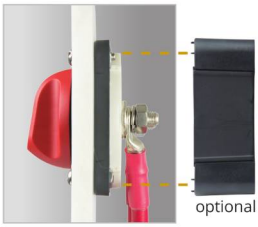
This powerful new generation of battery switches have a 400 Amp rating with outstanding performance and features for both the installer and end user. Three mounting options: surface, rear panel and front panel mounting, plus optimized cable access makes installation a breeze. Pro Installer switches set the new benchmark with outstanding ergonomics, intuitive look/feel, and are engineered from the finest materials to withstand the harsh marine environment.

- Switch studs face back of switch (when viewed from front)
- Panel mounting allows direct access to the switch studs from rear of panel
- Does not share Pro Installer interconnection height due to different mount options
- Accepts metric or imperial fasteners with innovative nut retention

Standard Mounting Options

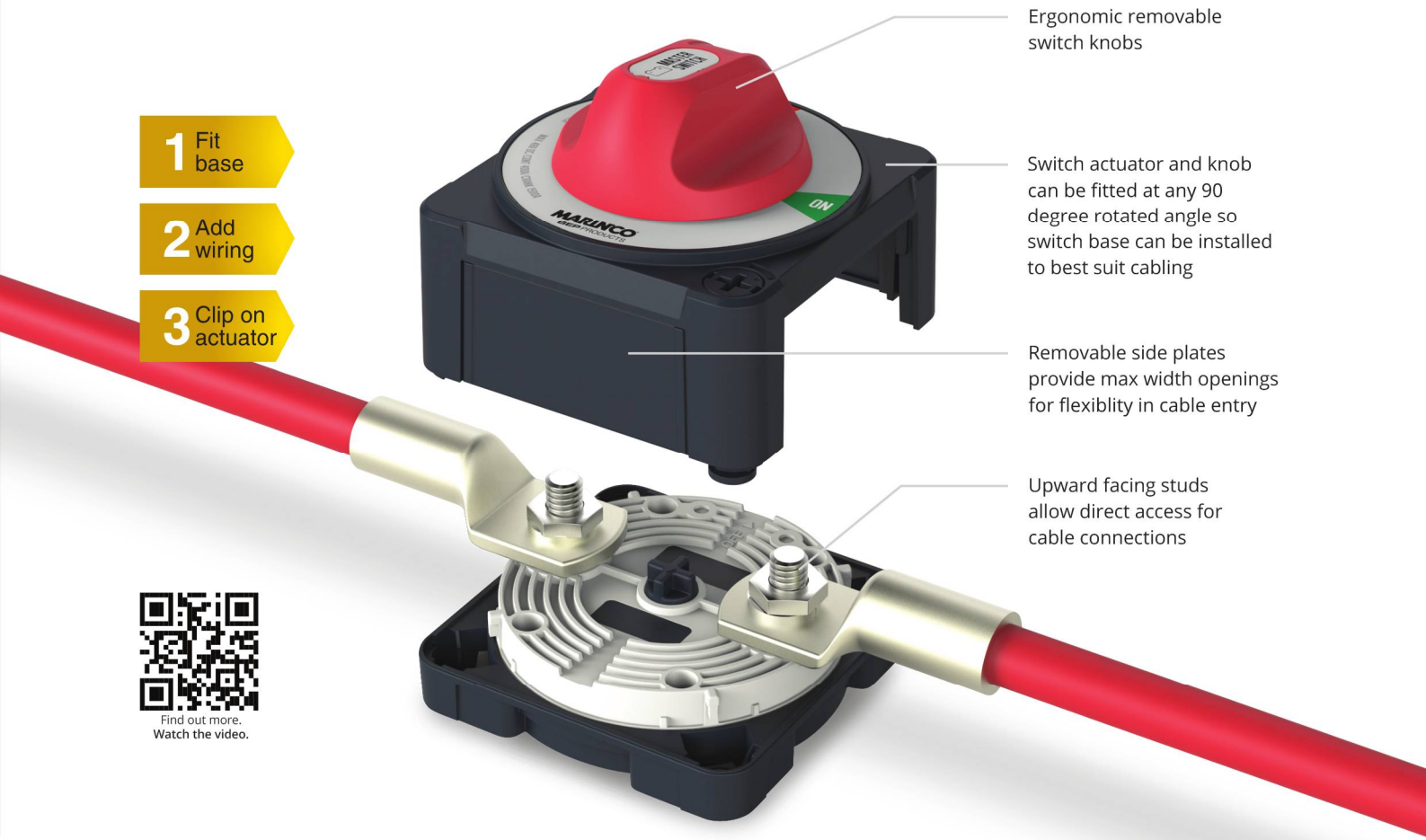
Surface Mount

Front Panel Mount



Rear Panel Mount

Check out our Award winning Pro Installer EZ-Mount Switches



Find out more.
Watch the video.

Pro Installer EZ-Mount Switches

Why Pro Installer EZ-Mount?

As easy as 1, 2, 3, these revolutionary, patent pending new battery switches from BEP allow you to wire from the front. Simply remove the back, wire, and then clip the actuator and cover in place. Never has installation been so easy. These durable switches accept large cables or multiple lugs and feature intuitive, ergonomic switch positioning and clear graphics. The EZ-Mount switches have a compact, industry standard footprint, the ability to cluster with other Pro Installer products saving valuable onboard space, and are rated 400A continuous, 600A intermittent. Constructed for longevity in the marine environment, they meet rigorous global standards.

Surface Mount Only

Miami Boatshow

IBEX

Multi award winning including the prestigious METS DAME award.

Pro Installer Battery Switches

On/Off Battery Switches

For isolation of a single positive supply e.g. as a main House or Start battery switch

Double Pole On/Off Battery Switches

Used where positive and negative supplies must be isolated at the same time.

Note: 770-DP & 770-DP-EZ are replacing 720-DP

Selectors (771-S-EZ & 771-S) & Selector with Field Disconnect (771-SFD) Battery Switches

Power requirements on boats have increased, and these Selector switches offer high power capacity (400 amps continuous), the ability to easily fit doubled cables, and conform to the industry standard mounting footprint (Guest, Perko, Blue Sea).

Please note selector switches will not separate electronics from harmful engine starting spikes.

Note: 771-S & 771-S-EZ are replacing 721

Related Products

START

Label Sets page 86

770-DP-EZ

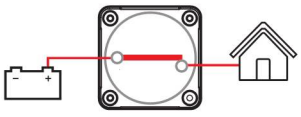
771-S

	On/Off Switch		Double Pole Switch		Selector Switch		Selector w/ Field Disconnect
	EZ-Mount	Standard	EZ-Mount	Standard	EZ-Mount	Standard	Standard
Part #	770-EZ	770•	770-DP-EZ	770-DP	771-S-EZ	771-S	771-SFD
OEM #	770-EZ-B	770-B 770-OEM*	770-DP-EZ-B	770-DP-B	771-S-EZ-B	771-S-B	771-SFD-B
Mounting	Surface ONLY	Surface, Rear or Front	Surface ONLY	Surface, Rear or Front	Surface ONLY	Surface, Rear or Front	
Voltage	48V DC (for 12–48V systems)				48V DC (for 12–48V systems)		
Rating	400 Cont / 600 Inter / 1500 Crank				400 Cont / 600 Inter / 1500 Crank		
Dims	3.85"x3.85"x3.62" / 98x98x92 mm				3.85"x3.85"x3.62" / 98x98x92 mm		
Operation	On/Off				1-2-Both-Off		
Stud	2x 10 mm (3/8")		4x 10 mm (3/8")		3x 10 mm (3/8")		

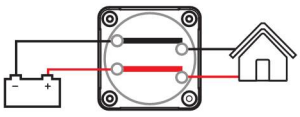
•Emergency Parallel option Part # **770-KEY-EP**.

*770-OEM Bulk packaged for panel mounting. No back or side plates.

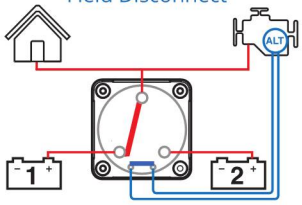
On/Off



Double Pole



Selector Switch with Alternator Field Disconnect



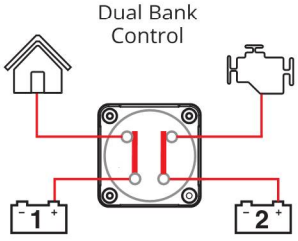
SAFETY NOTE 770-DP & 770-DP-EZ: These switches are not recommended for switching house and start battery systems at the same time, for safety reasons. You may need to isolate your engine battery in an emergency, but not your house battery which typically powers the communications. For this application please use the new Dual Bank Control Switch (772-DBC or 772-DBC-EZ) or one of our battery switch clusters.

Dual Bank Control Battery Switches

These innovative (patent pending) switches combine the functions of 3 battery switches into one to intuitively manage 2 battery banks and 2 loads. A unique safety position isolates one load e.g. House "On", Start "Off" in case of engine malfunction, so an emergency radio call can still be made. Significant savings in both space and installation cost can be made, without compromising functionality or safety.

772-DBC-EZ

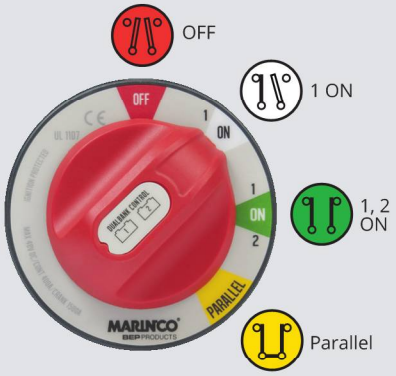
Dual Bank Control Switch	
EZ-Mount	**Standard**
772-DBC-EZ	**772-DBC**
772-DBC-EZ-B	**772-DBC-B**
Surface ONLY	Surface, Rear or Front
48V DC (for 12–48V systems, both banks must be same voltage)	
400 Cont / 600 Inter / 1500 Crank	
3.85"x3.85"x3.62" / 98x98x92 mm	
1, 1/2, Parallel, Off	
4x 10 mm (3/8")	



POWERtip

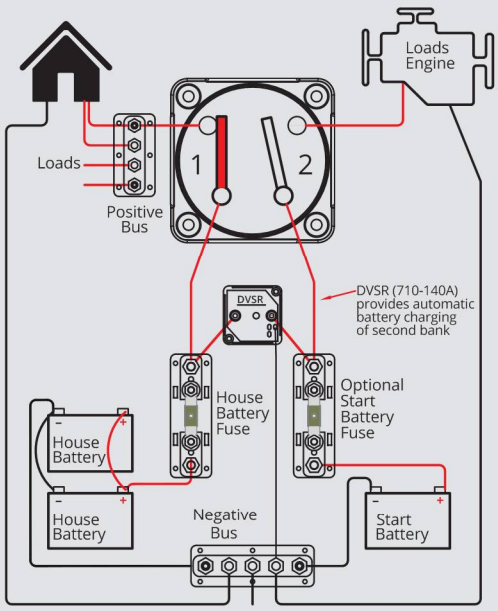
Dual Bank Control—3 Battery Switches in One

The Dual Bank Control Battery Switches are an ideal all-in-one solution for a boat or RV with one engine, and two battery banks. This switch combines functionality of 3 switches in one—House, Start, and Emergency Parallel. The unique, patented safety "1 On" position provides isolation of the Start circuits while leaving the House circuits powered. This allows the user to make an emergency radio call following engine malfunction, or to safely service the engine while House circuits are operational. Intuitive switch operation with ergonomically shaped knob allow for easy operation. Unsurpassed cable access, switch studs placed to allow doubled, back-to-back cable lugs provide for tidy installations.



System Example and the Isolated 1-ON Position

In the example below charging is automated by the Digital VSR, so normal control of the system is accomplished by simply turning the Dual Bank Control switch Off/On. Battery banks have been optimized to suit their respective loads, and the load groups are completely isolated during normal operation. The Isolated 1-ON and Emergency Parallel functions are available as additionally required by the user.



Battery Switches

701

701S

700

Contour Battery Master Switch

- Patented Contour Locking System allows switch to be a stand alone unit, or locked together with other switches
- Control knob can be removed by switching to counter-clockwise 45° position
- Interchangeable labeling system allowing a full range of applications (Part # 713 or 715 on page 86)
- Three removable side plates 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
- 2.1" (52 mm) hole for mounting
- Available with house knob (OEM # 701B-HB) or with chassis knob (OEM # 701B-CH)

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 ensuring that it meets ABYC requirements
- 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.

Easyfit™ Battery Switch

Created primarily for installations where switches need to be recessed through varying thicknesses of panels.

- Easily removable threaded ring allows for panel thicknesses up to 3/4" (19 mm)
- Same features as the 701 with the removable knob 45° past the off position
- Includes removable back cover ensuring that it meets ABYC requirements
- Surface mount option offers a unique style compared to other switches available on the market
- Can easily be retro-fitted in place of most European post and lever type switches

720

POWERtip

BEP Battery Switch Construction

All BEP battery switches are moulded in a high strength, fiber reinforced plastic which provides excellent high temperature performance, and the greatest resistance to chemicals that damage other plastic types.

Heavy-Duty Battery Switch

- The 720 Heavy-duty Battery Switch is well suited to larger vessels, being capable of handling the high electrical loads found on today's boats and RV's plus starting large diesel engines
- Rated at 600A continuous and 2500A cranking
- Can be rear panel, or surface mounted
- Uses the same proven style of self cleaning sliding copper contact used inside the 701
- Interchangeable labeling system allowing a full range of applications (Part # 713 or 715 on page 86)

Related Products

Label Sets
page 86

Specifications - All recessed or surface mount, tin-plated copper studs & nuts, ignition-protected

				Rating (A DC)					
Part #	OEM #	in LxWxH	mm LxWxH	Cont (1 hr)	Inter (5 min)	Crank (10 sec)	Voltage (V DC)	Operation	Stud size Studs x (in/mm)
700	**700B**	2.7" x 2.7" x 4.3"	68x68x110 mm	275	455	1250	48	On/Off	2 x (3/8" / 10 mm)
701	**701B**	2.75" x 2.75" x 3"	69x69x75 mm	275	455	1250	48	On/Off	2 x (3/8" / 10 mm)
701S	**701S-B**	2.75" x 2.75" x 3"	69x69x75 mm	200	300	1000	48	1-2-Both-Off	3 x (5/16" / 8 mm)
720	**720B**	4" x 4" x 3.5"	102x102x90 mm	600	800	2500	48	On/Off	2x (1/2" / 12 mm)

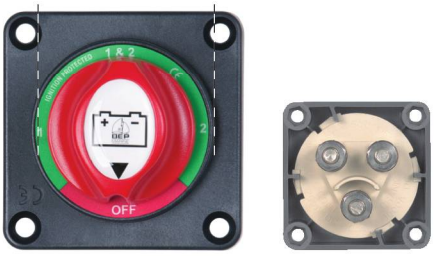
Panel Mounted Battery Switches

Panel Mounted Switches

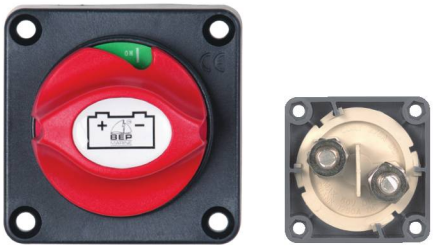
Designed specifically for panel mount applications. This range gives a very compact, versatile solution.

- Compact, lightweight
- Removable knob on 701-PM
- Countersunk recesses for surface mount application
- Standard 2-1/16" (52 mm) hole cut out (same as standard gauge hole)
- Inside: captive inserts for 3/16" (4.8 mm) nuts; full access for cables - no restrictions
- Standard interchange label system (see page 86)
- 701-PM provides On/Off operation for one battery bank
- 701-S-PM offers Selector functionality (1/2/1&2) to select between 2 battery banks

As shown in Contour Connect panels



701S-PM



701-PM

Mounting Plates

Single recessed. Supplied with all the mounting hardware and come in a matching grey finish.

For	Part #	LxW
701	**BSP-1**	3.75" x 3.75" / 95x95 mm

Specifications

Part #	OEM #	in LxWxH	mm LxWxH	Rating (A DC) Cont	Inter	Crank	Voltage (V DC)	Operation	Stud size Studs x (in/mm)
701-PM	**701B-PM**	2.75" x 2.75" x 3"	69x69x67 mm	275	455	1250	48	On/Off	2 x (3/8" / 10 mm)
701S-PM	**701S-B-PM**	2.75" x 2.75" x 3"	69x69x67 mm	200	300	1000	48	1-2-Both-Off	3 x (5/16" / 8 mm)

Related Products

Label Sets
page 86

Battery Knob Options for 701 Series

- For applications where emergency parallel switch needs to be highlighted
- Order separately - replaces existing knob

701-KEY-EP

701-KEY

Remote Operated Battery Switches

The MD range of battery switches allow you to install the battery switch very close to the battery, to remotely manage the increased electrical loads found on today's boats. This reduces cable lengths and sizes, providing significant savings in expense and weight of copper battery cable. They are ideal for remote isolation of bow and stern thrusters. The 720-MDO has been enhanced to offer easy standard installation, or advanced options capable of switching different voltage circuits from the main supply (example: a 48 volt bow thruster with a 24 volt house supply).

- Remote operation
- Battery switch can be mounted alongside battery, reducing cable lengths and cable sizes (large cost and weight saving in copper cables)
- Reduced installation labor, due to shorter battery cable runs
- Manual override option to meet CE/ABYC requirements
- Power Draw 701-MD / 701-MDCZ: Switch off: 12mA
- LED status identification for remote control switch
- Can be either surface, or rear panel mounted
- Uses interchangeable labelling system (Part # 713 or 715 on page 86)

701-MD & 701-MDCZ

720-MDO

Optical sensor benefits (720-MDO only)

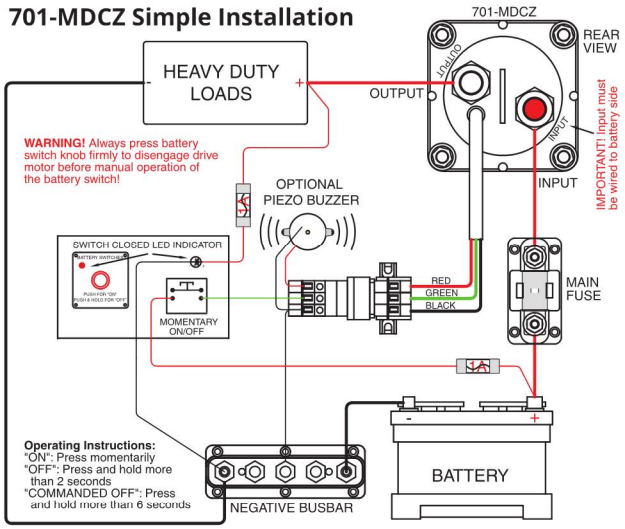
- Same easy connection for standard installation
- Ability to control different voltage circuits e.g. 36 or 48 volts
- Can be used to switch positive or negative lines
- Main contacts can be isolated from control circuit allowing operation via another battery source
- Low stand by current draw (<5mA)

CZone™ Optimized Remote Battery Switch with Buzzer Option (701-MDCZ only) NEW

Optimised for use with, or alongside CZone™ digital switching systems, the 701-MDCZ offers:

- Momentary positive remote activation allows multiple remote switches to be connected to the same battery switch e.g. a wireless remote control plus a switch on the dashboard
- Positive activation allows direct wiring from CZone™ output modules, simplifying and speeding installation
- Red wire output can directly drive a piezo buzzer, so "ON" (2 chirps) and "OFF" (1 chirp) signals are sounded to acknowledge remote control activation
- Battery switch remains in the same state even if remote control power is lost providing greater fail-safe reliability
- Note: Not suitable for emergency parallel applications
- Wago and Deutsch plug versions

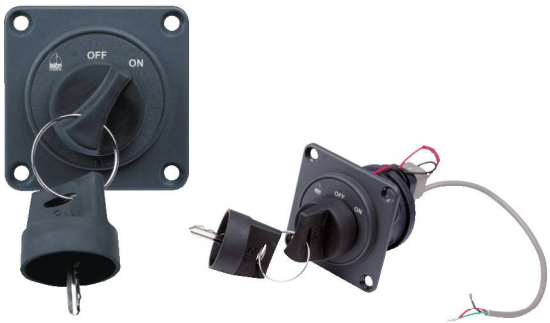
701-MDCZ Simple Installation



Example System: This diagram is a guide only showing 701-MDCZ connections and is not intended as a full electrical systems wiring diagram

Specifications - All recessed or surface mount, tin-plated copper studs & nuts, ignition-protected UL1107

Part #	OEM #	in LxWxH	mm LxWxH	Rating (A DC) Cont	Inter	Crank	Voltage (V DC)	Function	Stud size Studs x (in/mm)
701-MD	—	2.7" x 2.7" x 4"	69x69x101 mm	275	455	1250	9.5–32	On/Off	2 x (3/8" / 10 mm)
701-MD-D	—	(Deutsch Plug) Same dimensions and ratings as above							
720-MDO	—	4" x 4" x 4.33"	102x102x110 mm	500	700	2500	9.5–32	On/Off	2 x (1/2" / 12 mm)
701-MDCZ	**701-MDCZ-B**	2.7" x 2.7" x 4"	69x69x101 mm	275	455	1250	9.5–32	On/Off	2 x (3/8" / 10 mm)
—	**701-MDCZ-D-B**	(Deutsch Plug) Same dimensions and ratings as above							



Remote On/Off Key Switch

For the remote operation of the 701-MD and 720-MDO battery switches (above).

Can be mounted standalone or within the Contour Connect panel range.

Part # **80-724-0006-00**

Terminal Link Kits (TLK's) NEW

Now available for the 701 and 720 size battery switches, the TLK's allow for cable connections to be made outside of the body of the switches.

Part # **80-708-0017-00** 701-MD
Part # **80-708-0013-00** 720-MDO

Wireless Remote Control

You can now wirelessly operate your BEP motorized battery switches from a distance of up to 250 feet (80 meters) away.

- Control up to 4 separate 5A circuits; eg, 701-MD/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 key fob
- Control battery switches easily (On/Off) from the dock
- Remote has a rolling code, for security
- Requires 12V supply for operation, relay channels are fully isolated and are rated 0–32V, 5A
- Activation of the 4 circuits may be either latching (all 4 the same), or momentary

Part # **80-911-0045-00**

Piezo Buzzers For 701-MDCZ NEW

Piezo buzzers provide an excellent means to alert users to alarm conditions. These buzzers provide a loud, constant tone, with a choice of 2 output sound levels. They can be used as alarms with our DCSM systems monitor, or directly driven by the 701-MDCZ motorized battery switches to provide automotive style feedback when you switch your boat on and off.

Part #	OEM #	Db	Diameter	Voltage
54-27C4/DSP	**54-27C4**	85	30 mm / 1.2"	5-30V
54-35C2/DSP	**54-35C2**	97	42 mm / 1.65"	5-20V (30V w/701-MDCZ)

Battery Knob Options for 701 Series

For applications where emergency parallel switch needs to be highlighted.

Order separately - replaces existing knob.

701-KEY-EP

701-KEY

Dual Operation VSS (Voltage Sensitive Switch) and Emergency Parallel

These Voltage Sensitive Switches automatically sense connected battery bank voltages and provide optimal, efficient charging of the second bank. The VSS allows for independent battery banks to be combined or isolated based on the presence of a charging source (such as an engine alternator or battery charger), while also offering remotely activated, high current, emergency parallel connection. Designed and constructed for longevity in the marine environment with tinned copper conductors, stainless steel nuts, and high temperature, fiber reinforced plastics. The units are ignition protected, provide On/Off switching operation, and may be recessed or surface mounted.

- Dual battery sensing
- Remote emergency parallel function: can be operated through a momentary button on the dash which will parallel the batteries for 10 minutes. Once this 10 minutes has passed, if the voltage is up high enough, the voltage sensitive switch will stay engaged. If not, it will disengage.
- Manual override option

701-MDVS

720-MDVSO benefits

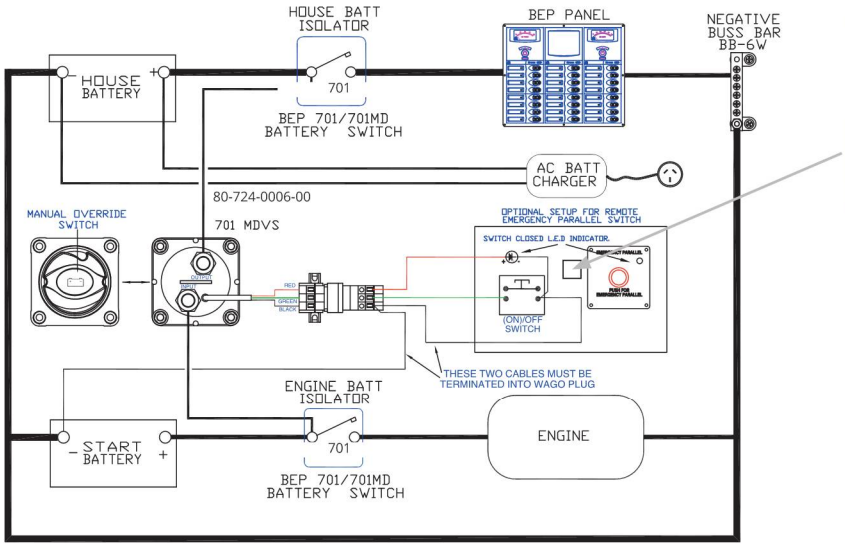
- Dual 12/24 volt operation (both banks must be same voltage)
- Low power consumption (<6mA)
- Lowered cut in voltage (13.3/26.6V) suits low output alternators and high temperature environments

720-MDVSO

80-701-0018-00, and 720-MDO-EP: Emergency Parallel Only

- 10 minute remotely activated emergency parallel function (no voltage sensitive function)
- 12/24 volt operation (both banks must be same voltage)

Part #	in LxWxH	mm LxWxH	Volts (V)	Rating (A)	Engages (V DC)	Disengages (V DC)
701-MDVS	2.7" x 2.7" x 4"	69x69x101 mm	12	275	13.7	12.2–13.00
720-MDVSO	4" x 4" x 4.3"	102x102x110 mm	12/24	500	13.3/26.6	12.7/25.4
701-MDVS-24V	2.7" x 2.7" x 4"	69x69x101 mm	24	275	27.4	24.4–26.00
80-701-0018-00	2.7" x 2.7" x 4"	69x69x101 mm	12/24	275	Emergency Parallel Only	
720-MDO-EP	4" x 4" x 4.3"	102x102x110 mm	12/24	500	Emergency Parallel Only	



Remote Emergency Parallel Switch

Used for convenient remote activation of the 10 minute emergency parallel function on these motorised Voltage Sensitive and Emergency Parallel switches. It can be mounted standalone or within the Contour Connect panel range.

Part # **80-724-0007-00**

DVSR: Dual Battery Charging Made Easy

The Digital Voltage Sensing Relay (DVSR) provides a highly efficient but inexpensive solution for automatic charging of a second battery bank. It ensures correct charging while removing the risk of flat start batteries. When the voltage on the first bank rises sufficiently, the DVSR engages allowing the second battery bank to charge. When charging stops and voltage falls, the DVSR automatically isolates the battery banks, ensuring that engine start batteries are kept fully charged. Digital circuitry provides superior reliability and extremely low power consumption.

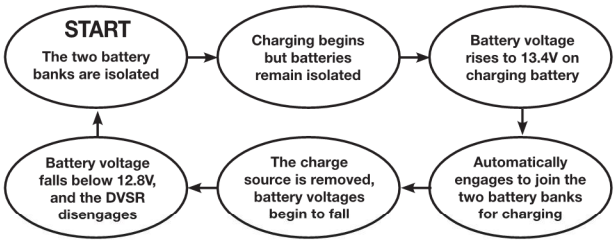
- Safely charge two or more independent battery banks from one charge source (alternator, battery charger...)
- Charges engine starting batteries before combining auxiliary bank for charging
- Protects start batteries from becoming flattened by domestic loads
- Isolates electronics from harmful electrical surges from starter motors
- Simple to install 3 wire connection, leaves alternator wiring intact
- No volt drop vs. diode isolators
- Ignition protected
- Surface or panel mountable

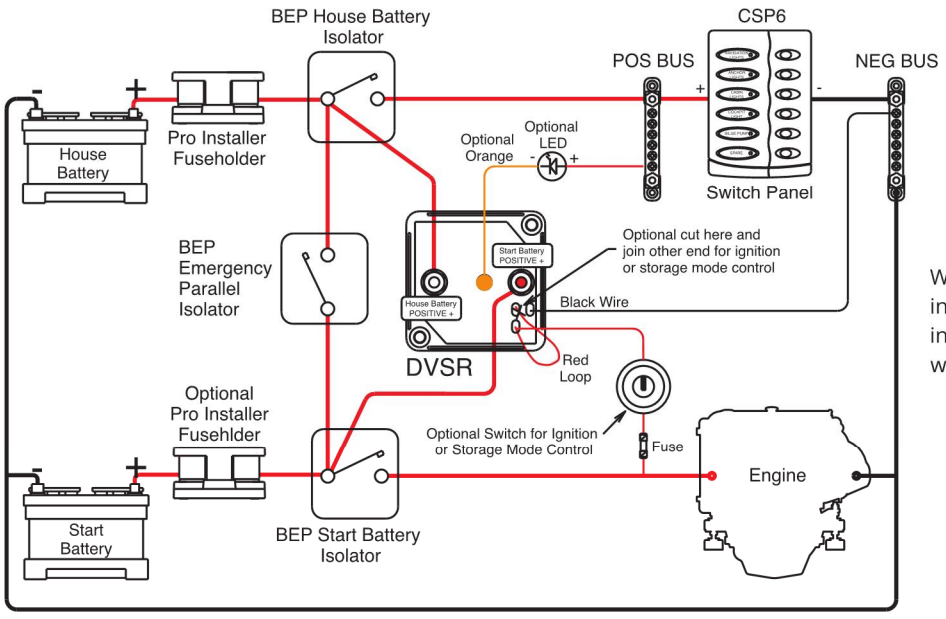
Digital Technology Provides:

- Multi voltage, auto selects between 12V and 24V DC operation
- Digital circuits provide very low power consumption (<2mA in standby, up to 8x more efficient than analogue models) and enhanced performance
- Remote sensing circuitry allows optional connection from ignition switch, provides same functionality as single sense VSR and zero power consumption when engine is off
- Zero stand by current draw when remote sensing circuit utilized with storage mode switch fitted (switch in open position)
- Remote status LED output option

Part #	OEM #	in LxWxH	mm LxWxH	Volts (V)	Rating (A) Continuous	Rating (A) Intermittent	Engages (V DC)	Disengages (V DC)
710-140A	**710-140A-B**	2.75" x 2.75" x 2"	69x69x50 mm	12/24	125	140	13.4/26.8	12.8/25.6

DVSR Operation (shown for 12V system)





Wiring diagrams indicative of installation only, for full instructions see the BEP website: **bepmarine.com**

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.

All existing VSR enabled Battery Distribution Clusters now come standard with the new Digital Voltage Sensing Relay. Upgrade your existing model that ends in "-100A" or "-100A-B" with any of the models on the following three pages.

See page 41 for panel versions

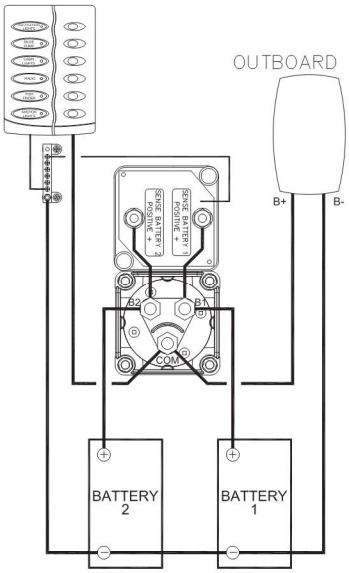
Single Engine, Two Battery Banks

The 714-140A-DVSR uses a dual sensing DVSR (710-140A). 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 714-140A-DVSR the electronic loads are run off the same battery as the engine starting battery.

Part # 714-140A-DVSR
OEM # 714-140A-DVSR-B

See table on page 38 for specifications



See page 41 for panel versions

Single Engine, Two Dedicated Battery Banks

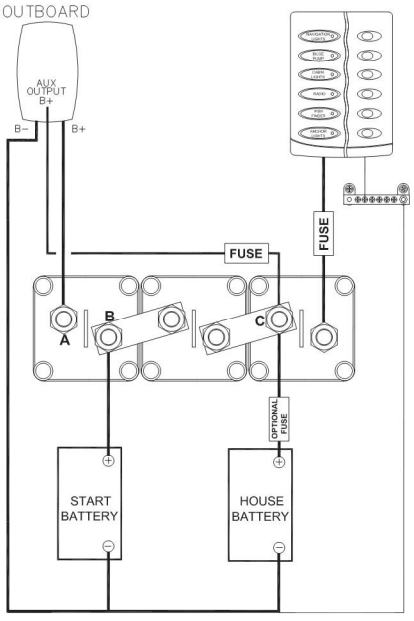
Available as horizontal or vertical units.

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

Part # 715-H horizontal
Part # 715-V vertical

See table on page 38 for specifications



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.

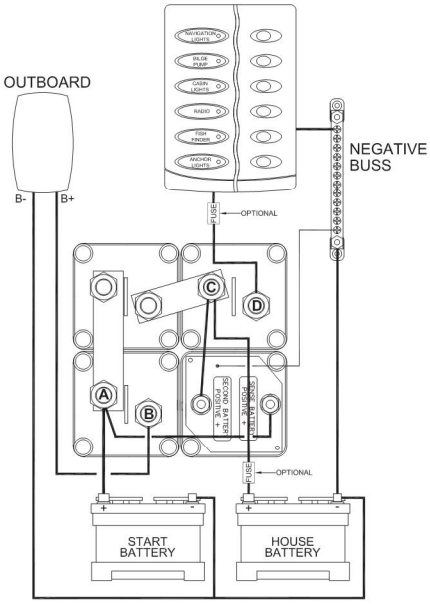
2. Single alternator inboard engine dual battery bank.

The 716 cluster replaces battery isolator systems.
For VSR operation, see page 34.

Part # **716-H-140A-DVSR** horizontal
Part # **716-V-140A-DVSR** vertical
Part # **716-SQ-140A-DVSR** square

716-H-140A-DVSR

716-SQ-140A-DVSR



See page 41 for panel versions

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.

See table on following page for specifications.

Part # **715-S**

Twin Engine, Three Banks

The 718-140A-DVSR 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 35)

See table on following page for specifications.

Part # **718-140A-DVSR**

Twin Engine, Three Banks

This system is designed for twin engine installations. 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 engines 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.

See table below for specifications.

Part # **717-140A-DVSR**

Triple Engine, Four Banks

This system is designed for triple engine installations. Once again using multiple VSRs off each start battery giving combined charge from all 3 engines into the house battery via VSRs.

See table below for specifications.

Part # **719-140A-DVSR**

See page 41 for panel versions

Dimension guide

Clusters are made from uniformly square switches, each side 2.7" (69 mm)

Specifications

Engine type	Battery (banks)	DVSR	Orientation	Part #	in LxWx3	mm LxWx75
Single inboard or outboard	2	yes	vertical	**714-140A-DVSR**	5.4" x 2.75"	138x69
		yes	horizontal	**716-H-140A-DVSR**	10.85" x 2.75"	276x69
		yes	vertical	**716-V-140A-DVSR**	10.9" x 2.7"	276x69
		yes	square	**716-SQ-140A-DVSR**	5.4" x 5.4"	138x138
		no	horizontal	**715-H**	8.1" x 2.75"	207x69
		no	vertical	**715-V**	2.75" x 8.1"	69x207
Twin inboard or outboard	2	no	horizontal	**715-S**	8.1" x 2.75"	210x69
Twin inboard	3	yes	horizontal	**718-140A-DVSR**	8.1" x 5.4"	207x138
Twin outboard	3	yes	horizontal	**717-140A-DVSR**	5.4" x 8.1"	138x207
Triple outboard	4	yes	square	**719-140A-DVSR**	8.1" x 8.1"	207x207

VSR Charging Current: 125A continuous Battery Switch Rating: 275A continuous

Single Engine, Two Battery Banks with Motorized VSR

Offers the same features as the 716-SQ-140A-DVSR (see page 37), with two important differences.

The VSR and Emergency Parallel switches are combined into one voltage-sensitive switch, and that switch is able to be remote-operated. For features of the motorized VSR, see page 35. The layout allows all cables to be attached from the bottom of the cluster.

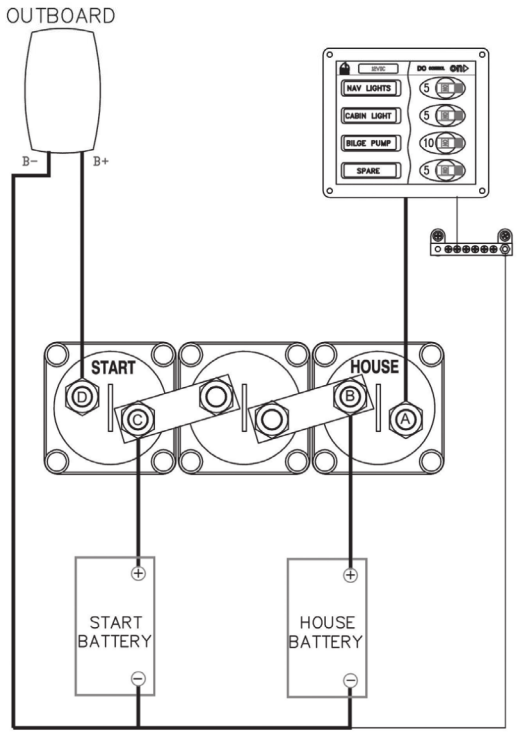
Part # **80-716-0017-00**

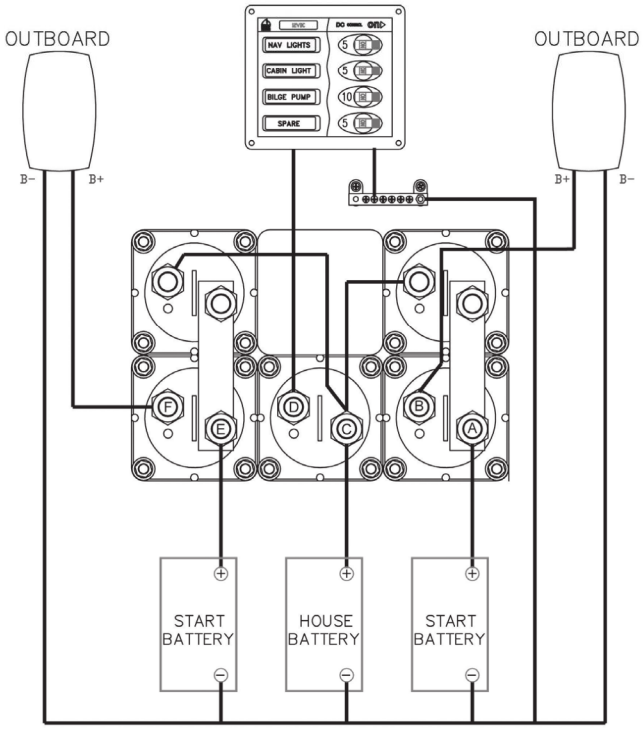
Twin Engine, Three Banks with Motorized VSR

Offers the same features as the 717-140A-DVSR (see page 38).

The VSR and Emergency Parallel switches are combined into one voltage-sensitive switch, and that switch is able to be remote-operated. For features of the motorized VSR, see page 35. The layout allows all cables to be attached from the bottom of the cluster.

Part # **80-716-0018-00**





See page 41 for panel versions

Remote Battery Management Clusters

- Complete system including all cable links
  (Battery Control Center ordered separately—see below)
- Offers all features of motorized battery switches and Motorized VSRs in one kit. Makes ordering easy!
- 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
- Available in single, dual and triple engine configurations

Single Engine

80-716-0014-00

Dual Engine

80-716-0015-00

Triple Engine

80-716-0016-00

Battery Control Center

Sophisticated Electrical Systems Need Reliable Automation. That's Key. Centralize power handling with the BEP Battery Control Center.

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.

Description	Part #
Single engine remote	**80-700-0050-00**
Twin engine remote	**80-700-0051-00**
Triple engine remote	**80-700-0052-00**

80-700-0051-00

Battery Distribution Panels

Fast fit, flush mounting battery distribution panels

1. Use template to mark rectangular hole in fascia
2. Cut hole
3. Fit panel and screw into place
4. Add trim pieces
5. Connect cables

Dimensions for Contour Connect Panels

Part #	LxWxH in Module	Cut-out	LxWxH mm Module	Cut-out
CC-801	6.5" x 4.2" x 2.2"	5.75" x 3.4"	166x106x55 mm	146x86 mm
CC-810	9.2" x 4.2" x 2.2"	8.5" x 3.4"	233x106x55 mm	213x86 mm
CC-802	6.5" x 8.3" x 2.2"	5.75x7.5"*	166x212x55 mm	88x148 mm*
CC-803N	9.2" x 8.3" x 2.2"	8.5" x 3.4"*	223x212x55 mm	213x86 mm*

*Single hole only.

Single Engine, Two Battery Banks

This panel incorporates a version of our very successful 714-140A-DVSR cluster (page 36).

Supplied pre-wired with back cover and CC-J joiner to allow it to be combined with other modules.

Supplied standard in charcoal with grey wave strip. Other trim colors are available for volume OEM orders.

Part # **CC-801**

Single Engine, Two Battery Banks

The CC-810 is supplied standard with 3 x 701-PM battery switches pre-assembled.
Ideal for installing alongside any other Contour Connect Modules.

Part # **CC-810**

Single Engine, Two Battery Banks

The CC-802 incorporates a version of our very successful single engine battery switch cluster (page 37).

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.

Part # **CC-802**

Twin Engine, Three Battery Banks

The CC-803N incorporates a version of our very successful dual engine battery switch cluster (page 38).

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.

Part # **CC-803N**

The below 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

CC-5

CC-1 & CC-5 Modules

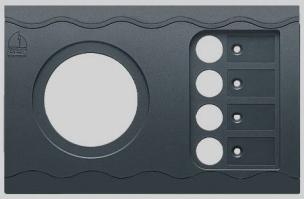
Will house the following components:

701-PM Panel mount battery on/off (page 31).

701S-PM Panel mount battery selector switch (page 31).

185 Series Heavy-duty circuit breakers (page 63).
(CC-HDBM must be ordered with 185 series circuit breakers, one per breaker).

710-140A Voltage Sensitive Relay (see page 35).



CC-2 Module

Will house the following components:

CLB series (push reset) Carling circuit breakers (page 64).

Toggle Magnetic Hydraulic Carling circuit breakers (page 65).

CC-HDBM

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.

5 Way CB Panel

- 1x Heavy-Duty CB, 1x Toggle, 3x Push Reset
- Equipped to cover essential circuits requirements (bilge, pumps etc)
- 50A CB for DC mains or treatment systems
- 135A 185 Series CB for anchor windlass
- Compliments the other modules for either single or dual engine installations

Part # **CC-804**

Wave Strips

- Supplied with Contour Connect panels (standard)
- Can be ordered seperately (top and bottom pair)
- Available in single, double and triple lengths

Part # **CC-3WS/CH**

Blanking Plate

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.

Part # **CC-BLANK**

Solid Links

708-42.5 Solid terminal links supplied pre-connected with spare links for different orientations (horizontal or vertical) of Contour Connect panels.

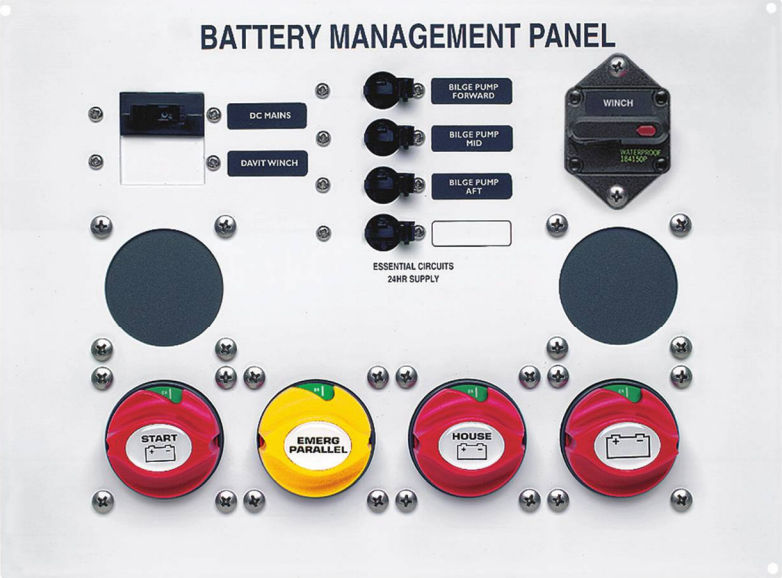
Must be ordered separately when ordering CC Kitset panels.

708-42.5

Part #	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

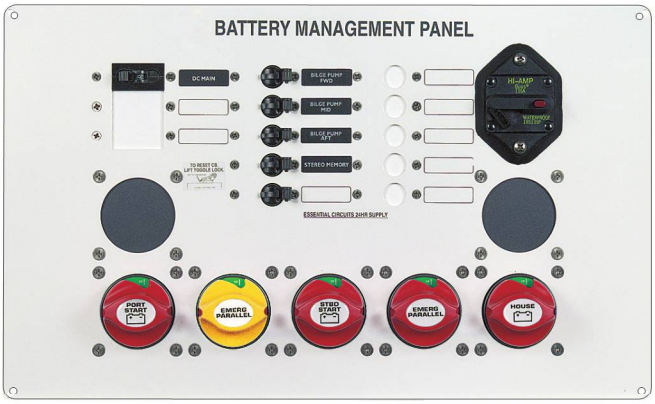
Battery Management Panels

- 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 # SET-MSP; additional label sets available (see page 85)
- Spare positions for additional battery switches and circuit breakers for extras such as radio batteries and genset batteries
- NOTE: Custom panels made on request



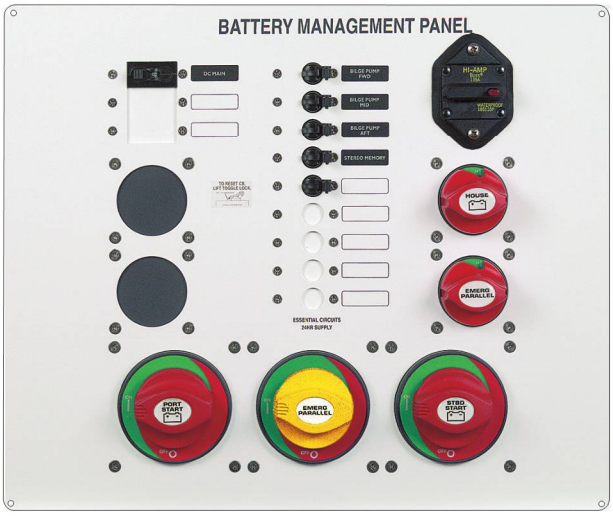
800-MS1

The 800-MS1 panel is designed for power or sail boats between 10–12m (32.9-39.5 ft) with single engines. 260x351x75 mm (10.25" x 13.8" x 2.9")



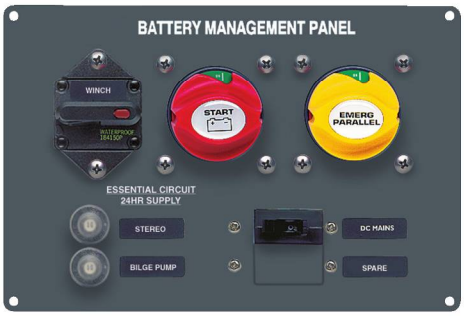
800-MS2

The 800-MS2 panel is designed for power boats between 10–12 m (32.9–39.5 ft) with twin engines. 281x463x75 mm (11.1" x 18.25" x 2.9")



800-MS3

The 800-MS3 panel is designed for power boats between 12 –16 m (39.5 – 52.5 ft) with larger diesels. 380x463x95 mm (15" x 18.25" x 3.75")



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. 160x239x75 mm (6.3" x 9.4" x 2.9")

Auxiliary Parts (ordered separately)

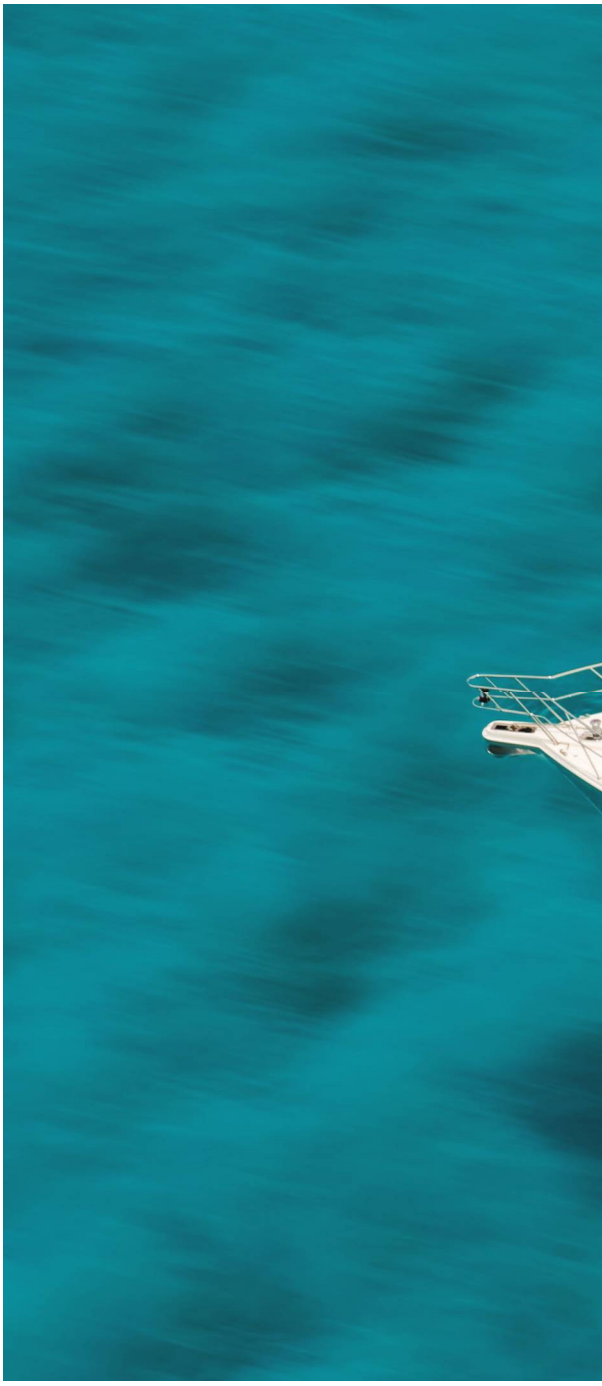
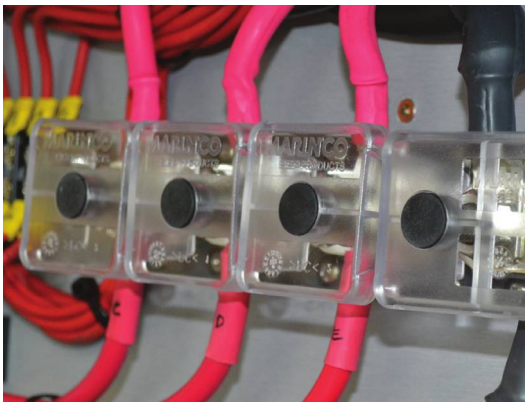
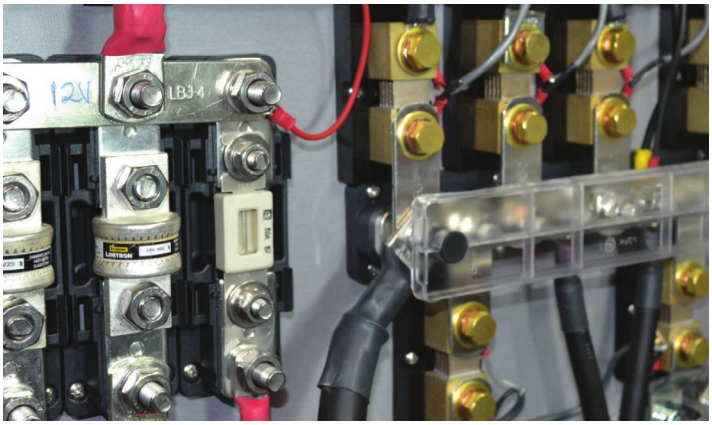
Part #	**701**	Battery switches to fit panel cutouts
Part #	**713**	Battery switch label sheet

Circuit Breakers

For treatment systems, davit winches and sub-mains.

Part #	**CBL-50A-SP**	50A
Part #	**CBL-75A-SP**	75A
Part #	**CBL-100A-SP**	100A

CONNECTORS & INSULATORS

BEP designs and develops innovative systems with the user in mind.

The innovative, award winning ProInstaller Series of battery switches and bus bars highlight the innovative thinking at BEP. These systems provide high performance products with reduced time to install and easy operaton. The space saving designs and innovative features provide the best battery switch and bus bar system available today.