

# Battery Management

## BATTERY ISOLATION

# Surepower Industries

- Eliminates multi-battery drain when two or more battery banks are in a charging system
- Solid-state electronics
- Each battery discharges and charges according to its own needs
- Multiple battery banks
- Systems 6-48 volts



BI SERIES

Item Number	Amps	Input	Banks	Price
BI2402	240	1	2	\$226.11
BI702	70	1	2	\$49.71
BI703	70	1	3	\$87.50
BI2702	70	2	2	\$124.94
BI2703	70	2	3	\$157.11
BI1202	120	1	2	\$95.30
BI1203	120	1	3	\$121.85
BI3203	120	2	3	\$268.89
BI1603	160	1	3	\$203.10
BI3002	300	1	2	\$851.30
BI3003	300	1	3	\$1,163.30

# Newmar

- Enables installation of a seamless, redundant power system for critical electronic loads
- Selects the higher voltage of two isolated DC power sources and routes power to the load
- In case of a fault or fail the second source will automatically supply the load with no transfer delay, operation continuous uninterrupted
- Easy installation
- Rugged rust proof anodized aluminum case



APS-70

Item Number	Dimensions in " (mm) HxWxD	Amps	Voltage DC	Banks	Price
<b>Auto Power Selector</b>					
APS-70	3.25(82.55) x 4.50(114.30) x 3.10(78.74)	70	6-50	2	\$118.00
APS-160	9.00(228.60) x 4.50(114.30) x 3.10(78.74)	160	6-50	2	\$320.00

List pricing in catalog is subject to change without notice.

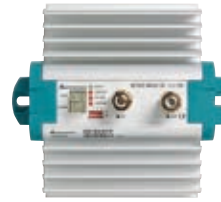
### Mastervolt

#### Battery Watch

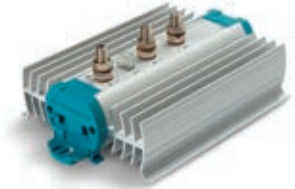
- Switches off loads when batteries are nearly empty
- LED lights provide clear read out
- Undervoltage can be set using DIP switches
- Corrosion proof material with aluminum heat sinks
- Electronic components are encased in synthetic materials
- Charges 2 or 3 batteries at high capacity
- LED displays whether the input power is active or not

#### Battery Mate

- Compatible with any type of alternator/battery charger
- Negligible voltage loss between alternator and battery
- Corrosion proof material with aluminum heat sinks
- Electronic components are encased in synthetic materials
- Charges 2 or 3 batteries at high capacity
- LED displays whether the input power is active or not



BATTERY WATCH



BATTERY MATE

Item Number	Max Load	Input Volts	Switch off 12V	Switch off 24V	Dimensions in " (mm) HxWxD	Price
<b>Battery Watch</b>						
83200150	150A	8-32V DC	9-12V DC	18-24 V DC	6.25(158.7) x 5.5(139.7) x 3.1(78.7)	\$235.00
Item Number	Max Output/Charger	Max Output/Alternator	Bank Amount	Dimensions in " (mm) HxWxD	Price	
<b>Battery Mate</b>						
83116025	120A	160A	2	8.1(205.7) x 5.5(139.7) x 3.1(78.7)	\$315.00	
83116035	120A	160A	3	8.1(205.7) x 5.5(139.7) x 3.1(78.7)	\$353.00	
83125035	200A	250A	3	8.1(205.7) x 5.5(139.7) x 3.1(78.7)	\$381.00	

### Balmar

- Provides current and voltage controlled output to your starting battery, during house battery charge
- Programmable for 12 or 24 volt operation or four battery systems
- Provides up to 30 amps of smart charging power
- Automatically responds by isolating the starting battery ensuring that there is no accidental discharge of the starting battery
- The DDC is a solid state battery combiner
- Auto/manual control
- Start battery temperature sensing available with the MC-TS-B sensor cable



DDC

Item Number	Amps	Volts	Program Sets	Dimensions in " (mm) HxWxD	Price
DDC-12/24	30	12/24	GEL, AGM, STD. FLD., FDC	4.8(121.92) x 3.2(81.28) x 1.5(38.10)	\$324.00

# Battery Management

## CHARGE RELAYS

# Blue Seas Systems

### SI ACR

- Senses charging on two battery banks
- Start isolation allows temporary isolation of house loads from engine circuit during engine cranking to protect sensitive electronics from sags and spikes
- Remote LED indicates ACR states (requires optional LED)
- CE marked, ISO 8846
- UL 1500 and SAE J1171
- IP67

### ML Series

- 500 amps magnetic latching (bi-stable) relay automatically combines batteries during charging and isolates batteries when discharging and starting engines
- Dual sensing, senses charging on two battery banks
- LED output to remotely indicate when batteries are combined isolated, in voltage lockout, in start or engine isolation (requires optional LED)
- Silver alloy contacts provide high reliability for switching live loads
- Manual override knob provides an added level of safety allowing control with or without power and offering locked off capability for servicing
- CE Marked, ISO 8846 and SAE J1171
- IP67
- Manual control



SI ACR



ML SERIES

Item Number	IC Rating	Under Voltage 12/24	Combine Relay 12/24 (30sec.)	Open Relay 12/24(30 sec.)	Price
<b>SI ACR</b>					
7610	120A Continuous, 210A Intermittent	9.5V DC/ 19V DC	13.6V DC/ 27.2V DC	12.35V DC/ 24.7V DC	\$109.97
<b>ML Series</b>					
7622	12V DC	9.6V DC	13.5V DC	12.75V DC	\$274.71
7623	24V DC	19.2V DC	27.0V DC	25.5V DC	\$274.71
Item Number	Description				Price
9160	Tin plated copper link bus, for paralleling ML battery switches and charging relay 500A continuous rating				\$16.64

### Mini ACR

- Senses charging on two battery banks
- LED indicates ACR status
- CE marked, ISO 8846, SAE J1171
- UL 1500
- IP67, up to 1 meter for 30 minutes
- 12/24V

### Add-A-Battery

- Compact
- Automatically share a single source of charging between two batteries
- Protects the start battery from house loads that can lead to discharge
- Designed for alternators up to 65 amps



MINI ACR

Item Number	IC Rating	Under Voltage	Combine Relay	Open Relay	Price
<b>Mini ACR</b>					
7601	65A Continuous, 115A Intermittent	9.5-19.0V DC	13.6-27.2V DC	12.75-25.5V DC	\$76.19
Item Number	Description				Price
<b>Add-A-Battery</b>					
7649	Contains M-Series Dual Circuit Plus battery switch and the 65A Mini ACR with start isolation				\$124.23

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## Newmar Battery Integrator

- Enables charging of two separate banks without voltage drop, yet maintains 100% isolation at all other times
- Heavy duty silver plated contactor, continuous duty rated
- Easy three wire hook up for two bank systems (BATT +, BATT +, Ground)
- Terminal for optional wiring of remote light indicating when battery banks are integrated
- Terminals: 5/16" copper alloy stud
- 12 volts 100 amps with ignition protection
- Optional internal connection can be wired for key starter or manual over ride switch tying battery banks together for extra boost during engine start



NEWMAR BATTERY INTEGRATOR

Item Number	Integration Point	Disconnect Point	Max Current	Peak Current	Price
BI-100	13.2V DC/ 26.4V DC	12.8V DC/ 25.6V DC	100/200	400/600	\$169.00
BI-200	13.2V DC	12.8V DC	200	600	\$287.00
BI-24-100	26.4V DC	25.6V DC	100	400	\$185.00

## Newmar

### DC Energy Monitor

- Waterproof and suitable for installation above deck area
- Meter, touchpad and surrounding bezel are fully waterproof and the ABS housing is UV stabilized
- Displays volts, amps, energy used, and remaining time for 12 or 24 volt systems up to 500 amps and up to 3000 amp hours
- Monitors up to three separate banks
- One bank may be programmed for these functions: Monitor charge/discharge amperage, total energy monitor can be set for amp hours or percent of charge, high/low voltage alarm, plus alarm set point for low amp hours remaining
- 500 amps shunt included
- DCE outputs NMEA 0183
- Power supply 9.5 to 33.0 volts DC
- Display: 4 digit LCD, 5 levels of back lighting



DCE

Item Number	Dimensions in " (mm) HxWxD	Price
DCE	3.61(92.07) x 2.5(61.00) x 4.1(104.00)	\$420.00

## Blue Seas Systems

### Voltmeter

- Enables voltage monitoring on up to 3 battery banks with one digital meter
- 4 digit LED display, shows from 0-60 Volts
- 3 position switch for multiple banks



VOLTMETER

Item Number	Dimensions in " (mm) WxH	Price
BS1474	4.88(123.83) x 4.75(120.65)	\$366.01

Images are representative of products listed and may not be actual product.

# Battery Management

BATTERY MONITORS + NOISE FILTERS

## Victron

- High resolution 10 milliamps (0.01a) with shunt
- Low current consumption: 1mA
- Separate front bezel for square or round appearance
- Rear or front mounting
- Includes 10 meter 6 core UTP with RJ12 connectors and cable fuse +connection
- Information displayed: battery voltage, battery charge/discharge current, amp hours consumed, state of charge, time to go at the current rate of discharge
- Visual and audible alarm: over voltage, under voltage, battery discharge
- Programmable alarm or generator start relay
- Monitors battery status
- Constantly measures the battery voltage, battery current, and temperature
- Calculates the state of charge of your battery
- Must be used in conjunction with either VE. Net Panel (VPN) or VE. Net Blue Power Panel (BPP)



BATTERY MONITOR



BATTERY CONTROLLER

Item Number	Voltage Range	Dimensions in " (mm) WxH	Input Voltage Range	Shunt	Price
<b>Battery Monitor</b>					
BMV-700	6.5-95V DC	2.0(52) x 1.2(31)	9-90V DC	500A/ 50mV	\$186.00
<b>VE. Net Battery Controller</b>					
VBC000300000R					\$270.00

## Mastervolt

- Three battery sets, service (full), starter, and bowthruster
- Read out for voltage, current, amp hours, time remaining indication, and battery capacity in %
- The built in microprocessor calculates the remaining capacity and stores historic data
- Not compatible with the Masterbus



MASTERLINK

Item Number	Voltage Range	Dimensions in " (mm) WxH	Amp Range	Shunt	Price
70403163	7-35V DC	4.7(120) x 2.63(65)	0-500	500A/ 50mV	\$428.00

## Newmar

- Heavy duty aluminum construction
- Operates on 6-48 volts DC systems
- Integral mounting flanges for secure installation
- Nickel plated brass and stud connectors
- Color coded wire leads to make in-line installation easy
- Can be used singularly or in combination to attenuate conducted line noise, either at the affected equipment or at the noise source



PC-10 & PC-25



150-A

Item Number	Filtered Frequency Rating	Amps	Dimensions in " (cm) HxWxD	Installation Location	Price
PC-10	Audio-200MHz.	10	1.25(3.2) x 4.25(10.8) x 3(8.2)	@ (+) and (-) Power Leads	\$68.00
PC-25	Audio-200MHz.	25	2(5.1) x 4.25(10.8) x 3(8.2)	@ (+) and (-) Power Leads	\$100.00

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### Blue Seas Systems

#### M-Series

- Ic continuous rating: 300 amps per circuit
- Dimension: 2.825"(72mm)W x 3.850"(98mm)H
- Mounting centers: 2.176"(55mm)
- Terminal stud size: 3/8"-16 (M10)
- Ignition protected: UL 1500 & SAE J1171
- Ingress protection: IP66
- ISO 8846
- ABYC Certified



MINI X4



TWO POSITION



FOUR POSITION

Item Number	Switch Type	Operation	I100Cranking (30 sec.)	I60Cranking (1 min.)	Max Volts (5min)	Price
<b>M-Series</b>						
6006	Single Circuit- On/Off	Switches a single battery to a single load group	1500A	775A	48	\$33.57
6007	Selector- 4 Position	Switches isolated battery banks to all loads or combines battery banks to all loads	1500A	775A	32	\$44.75
6010	Dual Circuit	Simultaneously switches between two isolated battery banks	1000A	650A	32	\$55.90
6011	Dual Circuit Plus	Simultaneously switches two isolated battery banks or combines battery banks to all loads	1000A	650A	32	\$55.90

#### E-Series

- Ic continuous rating: 350 amps per circuit
- Dimensions: 3.850"(98mm)W x 3.850"(98mm)H
- Mounting centers: 3"(76mm)
- Terminal stud: 3/8"-16 (M10)
- Ignition Protected: UL 1500 & SAE J1171
- Ingress protection: IP66
- Work with most standard Perko & Guest battery switch hole patterns
- ID circuit label kit sold separately
- Accepts up to 4/0 AWG cable
- Case design allows surface, rear, or front panel mounting options
- ABYC Certified
- Includes AFD (alternator field disconnect) which protects the diodes in the alternator in the event of the switch being turned to OFF position while the engine is running



FOUR POSITION



DUAL CIRCUIT

Item Number	Switch Type	Operation	I100Cranking (30 sec.)	Max Volts (1 min.)	I300 Intermittent (5min)	AFD	Price
<b>E-Series</b>							
9003e	Single Circuit- On/Off	Switches a single battery to a single load group	1200	48	600A	--	\$51.31
9004e	Single Circuit- On/Off	Switches a single battery to a single load group	1200	48	600A	Yes	\$65.69
11001	Selector - 3 Position	Switches battery banks to all loads	1200	32	600A	Yes	\$57.78
9001e	Selector - 4 Position	Switches isolated battery banks to all loads or combines battery banks to all loads	1200	32	600A	--	\$52.28
5510e	Dual Circuit	Simultaneously switches between two isolated battery banks	700	32	525A	--	\$66.66
5511e	Dual Circuit Plus	Simultaneously switches two isolated battery banks or combines battery banks to all loads	700	32	525A	--	\$66.66

Item Number	Description	Price
7902	Icon circuit identification label kit	\$7.00

# Battery Management

## BATTERY SWITCHES

### Blue Seas Systems (Continued)

#### HD-Series

- Dimensions: 3.850"(98mm)W x 3.850"(98mm)H
- Mounting centers: 3"(76mm)
- Terminal stud: 1/2" (M12)
- Ignition protected: UL 1500 & SAE J1171
- Ingress protection: IP66
- ABYC Certified
- Fits most Perko and Guest low amperage battery switch hole patterns
- Case design allows surface, rear, or front panel mounting
- CE marked, ISO 8846
- Includes AFD (alternator field disconnect) which protects the diodes in the alternator in the event of the switch being turned to OFF position while the engine is running



HEAVY DUTY X2



HEAVY DUTY X4

Item Number	Switch Type	Operation	I100Cranking (10 sec.)	I60Cranking (1 min.)	I300 Intermittent (5min)	AFD	Ic Continuous Rating	Price
3000	Single Circuit- On/Off	Switches a single battery to a single load group	2750A	1325A	900A	--	600A	\$107.76
3001	Single Circuit- On/Off	Switches a single battery to a single load group	2750A	1325A	900A	Yes	600A	\$123.00
11003	Selector- 3 Position	Switches battery banks to all loads	2750A	1150A	700A	Yes	500A	\$113.56
3002	Selector- 4 Position	Switches isolated battery banks to all loads or combines battery banks to all loads	2750A	1150A	700A	--	500A	\$112.20
3003	Selector- 4 Position	Switches isolated battery banks to all loads or combines battery banks to all loads	2750A	1150A	700A	Yes	500A	\$127.75

#### ML-Series

- 500 amp magnetic latching remote battery switch allows high amp switching under load, manually or from a remote location
- Bi-Stable ML coil function
- Manual override knob provides added level of safety allowing control with or without power and offering LOCKED OFF capability for service
- Auto releasing versions can be controlled with SPST or SPDT switch for applications where a normally open relay is desired
- Current rating dependent on wire size, call for detailed information
- Ignition protected: UL 1500 & SAE J1171
- Ingress protection: IP66
- Silver alloy contact
- Terminal stud: 7/8"(22mm)
- Includes control switch item #2145: SPDT (ON)-OFF-(ON)
- CE marked, ISO 8846 protected



ML SERIES

Item Number	Coil Volts DC	Contact Circuit Voltage	Multi Station Switching Capabilities	Price
7700	12	16	Yes w/ manual control	\$237.93
7701	12	32	Yes w/o manual control	\$223.51
7702	24	16	Yes w/ manual control	\$237.93
7703	24	32	Yes w/o manual control	\$223.51
7713	12	16	yes w/ manual control	\$274.69

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### Marinco

#### Pro Installer

- Dimensions LxWxH in " (mm): 3.85(98) x 3.85(98) x 3.62(92)
- Removable knob allows isolation during servicing
- Pro Installer can be mounted: surface, rear panel, or front panel
- 3 removable side plate for protection
- Innovative nut retention allows use of metric or imperial fasteners



PRO INSTALLER



PRO INSTALLER EZ

Item Number	Continuous A DC	Intermittent A DC	Cranking A DC	Operation	Stud	EZ Mount Price	Pro Installer Price
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**To order EZ mount use suffix (EZ) with item number**

770	400	600	1500	On/Off	2x (3/8 / 10mm)	\$73.63	\$59.07
770-DP	2x 400	2x 600	2x 1500	On/Off (2 Pole)	4x (3/8 /10mm)	\$97.65	\$80.04
771-S	400	600	1500	1-2-Both-Off	3x (3/8 /10mm)	\$79.18	\$62.90
771-SFD	400	600	1500	1-2-Both-Off	3x (3/8 /10mm)	N/A	\$69.60
772-DBZ	2x 400	2x 600	2x 1500	1, 1/2, Parallel, Off (2 Pole)	4x (3/8 /10mm)	\$99.18	\$81.85

### Guest

#### Battery Selector

- Polycarbonate case
- Surface mount
- For use with 6, 12, 24, or 36 volts systems
- Cable lug: 1/2"

BATTERY SELECTOR



Item Number	Continuous Amp	Momentary Amps	Operation	Dimensions in " (mm) HxWxD	Price
2102	230	345	On/Off	5.5(139.70) x 2.63(66.80)	\$76.40

#### Diesel Battery Switch

- Polycarbonate case
- For use with 6, 12, 24, or 36 volts systems
- Built with heavy duty copper sweep contacts
- Features alternator field disconnect (AFD)



ON/OFF SWITCH BLUE



SELECTOR SWITCH BLUE



SELECTOR SWITCH OEM BLACK



ON/OFF SWITCH OEM BLACK

Item Number	Continuous Amp	Momentary Amps	Type	Operation	Price
2303A	450	800	Heavy Duty	On/Off	\$264.90
2303A-B	450	800	Heavy Duty-OEM Black	On/Off	\$245.53
2304A	600	1000	Extra Duty	On/Off	\$272.75
2304A-B	600	1000	Extra Duty-OEM Black	On/Off	\$252.83
2300A	360	600	Selector Switch	1, 1&2, 2, Off	\$194.78
2300A-B	360	600	Selector Switch- OEM Black	1, 1&2, 2, Off	\$180.53

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# Battery Management

## BATTERY SWITCHES

### BEP

#### Heavy Duty

- Well suited for large vessels
- Uses patented contour locking systems
- RoHS Compliant
- ABYC Certified



720

Item Number	Dimensions in " (mm) LxWxH	Continuous Rating	Intermittent Rating	Cranking Rating	Operation	Stud Size	Price
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#### Heavy Duty

720	4(102) x 4(102) x 3.5(90)	600A DC	800A DC	2500A DC	On/Off	1/2(12) x 2	\$106.75
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#### Contour Series

- Removable side plates on four sides for access up to 1/0 cable
- Can either be surface mounted or recess mounted by cutting 2.1"(52mm) hole
- Control knob cannot be removed unless switching in a 45 degree counter clockwise position
- Uses patented contour locking system
- ABYC Certified
- Ignition protected
- RoHS compliant



701



701-S



701-MD



701-PM

Item Number	Dimensions in " (mm) LxWxH	Continuous Rating	Intermittent Rating	Cranking Rating	Operation	Stud Size	Style	Price
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#### Contour

701	2.75(69.8) x 2.75(69.8) x 3(76.2)	275A DC	455A DC	1250A DC	On/Off	3/8(10) x 2	Standard	\$37.58
701-PM	2.75(69.8) x 2.75(69.8) x 3(76.2)	275A DC	455A DC	1250A DC	On/Off	3/8(10) x 2	Panel Mount	\$32.93
701-S	2.75(69.8) x 2.75(69.8) x 3(76.2)	200A DC	455A DC	1250A DC	Selector	3/8(10) x 2	Compact	\$48.30
701-MD	3(76.2) x 3(76.2) x 3.9(99.1)	275A DC	455A DC	1250A DC	Motorized On/ Off	3/8(10) x 2	Standard	\$226.65

#### Easy Fit

- Easily removable ring will allow for panel thicknesses up to 3/4"(19mm)
- Control knob cannot be removed unless switching in a 45 degree counter clockwise position
- Can be surface mounted offering a unique style
- Can easily be retrofitted in place of most European post and lever type switches
- ABYC Certified
- Ignition protected
- RoHS compliant



700

Item Number	Dimensions in " (mm) LxWxH	Continuous Rating	Intermittent Rating	Cranking Rating	Operation	Stud Size	Price
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#### Easy Fit

700	2.75(69.8) x 2.75(69.8) x 3(76.2)	275A DC	455A DC	1250A DC	On/Off	3/8(10) x 2	\$41.50
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#### Battery Distribution Clusters

- Combines BEP battery switches and VSR's can be configured for twin or triple outboards
- RoHS Compliant



717-140A-DVSR



719-140A-DVSR

Item Number	Dimensions in " (mm) LxW	Engine	Battery Banks	Price
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#### Battery Distribution Clusters

717-140A-DVSR	5.4(137.2) x 8.1(205.7)	Twin outboard	3	\$445.53
719-140A-DVSR	8.1(205.7) x 8.1(205.7)	Triple outboard	4	\$647.98

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## Hella Marine

- Removable key in OFF position
- Current interrupting
- VDA compliant



HEAVY DUTY



PLASTIC

Item Number	Material	Amps	Max. Load 12V/24V (10 sec.)	Price
87181	Plastic	50	1000A / 500A	\$26.67
62471	Steel key and plate	100	2500A / 100A	\$77.78

Item Number	Description	Price
<b>Accessories</b>		
87185	Spare key for battery master switch #87181	\$8.89

## Cole Hersee

- Suitable for 6-36 volts DC Systems
- Mounting stems: brass 3/4" (19.1mm) #16 thread
- Terminals: two 3/8" (9.5mm) diameter studs
- Silver laminated contact (M-284-01)
- UL 707B approved and CE Listed



DISCONNECT SWITCH

Item Number	Positions	Intermittent Rating	Continuous Ratings	Price
M-284-01	Off-On	800A	175A	\$84.83

## Blue Seas Systems

### BS1408

- 360 panel systems
- Backlit circuit labels
- ON indicating LEDs
- 3 non-switched 24-hour circuits
- 1 C-Series flat rocker circuit breaker
- 3 pushbutton reset only circuit breakers
- M-Series battery switch
- Isolates the engine circuit from the house circuit
- Allows emergency cross connect between isolated battery banks
- The addition of an automatic charging relay automates charging two battery banks
- Ignition protected UL 1500 and SAE J1171
- Label set 4218 included



BS1408

Item Number	Vmxo	Dimensions in " (mm) WxHxD	Price
BS1408	12V DC	4.88(123.83) x 7.75(196.85) x 3.5(88.90)	\$260.35

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# Battery Management

## BATTERY SWITCH PANELS

### Blue Seas Systems (Continued)

#### 8686

- Traditional metal panel
- 2 unswitched 24-hour circuits
- ON Indicating LEDs
- Spare aperture for additional flat rocker or pushbutton reset only circuit breakers
- 1 C-Series flat rocker circuit breaker
- 2 pushbutton reset only circuit breakers
- M-Series Battery Switch
- 24-Hour round label set 4140
- Isolated the engine circuit from the house circuit
- Allows emergency cross connect between isolated battery banks
- The addition of an Automatic charging relay automates charging two battery banks
- Ignition protected UL 1500 and SAE J1171



8686

Item Number	Vmxo	Dimensions in " (mm) WxHxD	Price
8686	24V DC	4.5(114.30) x 7.5(190.50) x 3.25(82.55)	\$220.68

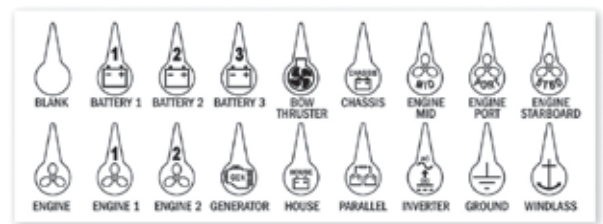
- Traditional metal panel
- 3 unswitched 24-hour circuits
- ON Indicating LEDs
- Spare apertures for additional flat rocker or pushbutton reset only circuit breakers
- 1 C-Series flat rocker circuit breaker
- 3 pushbutton reset-only circuit breakers
- 2 M-Series battery switches
- 24-Hour round Label set 4140
- Allows switching of three isolated circuits
- Provides 24-hour circuit protection
- Ignition protected: UL 1500 and SAE J1171



8689



9160



7902

Item Number	Vmxo	Dimensions in " (mm) WxHxD	Price
8689	24V DC	7.25(184.15) x 8(203.20) x 3.25(82.55)	\$381.87

Item Number	Description	Price
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#### Accessories

9160	Tin plated copper link bus, for paralleling ML battery switches and charging relay 500A continuous rating	\$16.64
7902	ICON Circuit Identification Label Kit	\$7.00

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