

Electrical System Accessories

Fully Automatic Microprocessor Controlled

PN: 30448

- 15 Amp Fast Charge – charger monitors battery condition and adjusts charge rate downward to prevent battery damage; for car, light truck, marine, RV, farm equipment, AGM, gel cell and deep-cycle batteries.
- 10 Amp Medium Charge – self-adjusting charge rate for everyday charging needs and keeping your battery in peak condition.
- 2 Amp Slow Charge – for charging and maintaining small batteries; charges motorcycle, ATV, snowmobile and lawn tractor batteries.
- 50 Amp Clamps – for top and side-mounted battery posts.
- Electronic Push Button Controls – easy-to-feel switches for selection of Display Mode, Charge Rate or Battery Type. Choose from regular automotive (low maintenance or and maintenance-free), deep-cycle, AGM or gel cell batteries.
- Retractable Handle – for easy portability and storage.



4-WAY BATTERY SELECTOR SWITCH

PN: 30417

Single-pole, triple-throw switch permits four connection modes: Battery One, Battery Two, two batteries in parallel, or both off. Rated for 230 amps continuous, 345 amps momentary. For 6-volt to 32-volt systems. Includes alternator field circuit disconnect to prevent surges. Selector has positive click positions. Bakelite housing with copper washers, brass terminals, and brass nuts. Install with #10 screws.

- **5-1/2' dia. x 2-3/4" deep**



BATTERY BOX - Power Guard 27

PN: BATBOX-27

Battery boxes meet ABYC Standard E-10 and U.S. Coast Guard Specification Number 183.420 as an OEM-installed battery hold-down system. Polypropylene construction for total acid resistance. Hold-down straps resist 350 pounds of force, nearly four times the USCG requirement. Battery Boxes are drop tested in temperatures ranging from -20°F to +120°F. Mounting hardware is included.

- **4 cable openings, enlarged to .55" diameter**
- **Larger handles with rolled edges**
- **Instructions molded inside cover**



Battery Series	Inside Dim. with Lid (L x W x H)	Outside Dim. with Lid (L x W x H)	Color/Style
27/27F/27M	13-7/8" x 7-1/4" x 10-1/2"	16-7/8" x 9-5/8" x 10-7/8"	Black, vented

12 Volt Electrical System Accessories

12 VOLT ELECTRICAL SWITCHES

Featuring: Top quality, heavy duty, sealed high amperage switches. All switches easily mount on bracket below



PN	Type	Amps@12VDC	Terminals	Description	Weight (lbs.)
TS-20A-1/4P	S.P.S.T.	20	1/4 Push-on	Toggle, 15/32 stem	.1
TS-BOOT	EPDM	-	Switch boot	15/32 mounting stem	.8/C
PPS-75A-SCR	S.P.S.T.	75	10-32 screw	HD push-pull, 15/32	.2

12 VOLT SWITCH BRACKETS

Featuring: Aluminum (Bracket - M15 has Teflon hard coat protection). Holds switches, fuses and circuit breakers. Electrical components not included.



PN	Switch Holes	Mounting Holes Match Motor Base	Dimensions (in.)	Weight (lbs.)
BRACKET-M15	1/2	M9, 15, 17, & 20 base	2 x 1 x 3 1/4	.2/ft
BRACKET-M30	1/2 (2)	M30 base	3 x 1 1/2 x 5	.3/ft

12 VOLT FUSE HOLDERS, PANEL MOUNT

Featuring: 1/4 push on terminals, thread mounted, use with bracket above



PN	Max Amp	Volts	Mounting Hole	Terminals Push-on	Fuse Type	Weight (lbs.)
FHPM-20A	20	12-250	1/2	1/4	AGC 1 1/4	.1
FUSE-15A	15	12	-	-	AGC 1 1/4	.1
FUSE-20A	20	12	-	-	AGC 1 1/4	.1

12 VOLT FUSE HOLDER, INLINE

Featuring: Heavy duty Bakelite with 6" leads and yellow crimp-on types, fuse not included

PN	Max Amp	Volts	Fuse Type	Wire Size	Weight (lbs.)
FHIL-20A	20	12	AGC 1 1/2	14 GA	.1



12 Volt Electrical System Accessories

12 VOLT CIRCUIT BREAKER, MANUAL RESET, SURFACE MOUNT

Featuring: Manual reset type 3 surface mount with hardware & optional protection boot



PN	Voltage Range	Amp Rating	Stud Terminals	Mounting Holes	Weight (lbs.)
CBSM-MR20	12 / 24	25	10-32	.196 (2)	.1
CBSM-MR30	12 / 24	30	10-32	.196 (2)	.1
CBSM-MR40	12 / 24	40	10-32	.196 (2)	.1
CBSM-MR50	12 / 24	50	10-32	.196 (2)	.1
CBSM-BOOT-R	Red boot for above protects terminals				1.8/C

Panel Mount

CBPM-MR30	30	12/24	1/4 Spade	7/16-28	.1
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12 VOLT STRAIN RELIEF, FLEX TYPE, LIQUID TIGHT

Featuring: Tough nylon body, convenient 1/2 NPT threads, liquid tight, nylon nut and seal sold separately.

PN	Cable dia. range	Mounting Holes	Thread (NPT)	Weight (lbs.)
LTSR-1/2L	.24-.47	.83	1/2	.1
NUT-SR1/2			1/2	.1
RING-SR1/2				.1



12 VOLT WIRE LOOM, SPLIT CORRUGATED AND SPIRAL CUT

Featuring: Both split corrugated and spiral cut polyethylene in sizes up to 3/4"

PN	Type	I.D.	Colors	Material	Weight (lbs.)
LOOM-SL-1/4	Split Loom	1/4	Black	Polyethylene	.1
LOOM-SL-3/8	Split Loom	3/8	Black	Polyethylene	.1
LOOM-SL-1/2	Split Loom	1/2	Black	Polyethylene	.1
LOOM-SL-3/4	Split Loom	3/4	Black	Polyethylene	.1



12 VOLT BATTERY CLAMPS, HEAVY DUTY FULLY INSULATED and MINIATURE

Featuring: Heavy duty, fully insulated 450 AMP rated and miniature 50 amp rated clamps



PN	Amp rating	Length	Color	Type	Weight (lbs.)
BATTCLAMP-R50	50	3"	Red	Miniature clip	.1
BATTCLAMP-B50	50	3"	Black	Miniature clip	.1

12 VOLT LEAD BATTERY LUGS, EMERGENCY TYPE and MARINE TYPE

Featuring: Strip and secure emergency type and heavy duty marine type plugs



PN	Cable size	Stud size	Description	Weight (lbs.)
BATTLUG-M5/16		5/16 (-)	Marine type, Negative post	.4
BATTLUG-M3/8		3/8 (+)	Marine type, Positive post	.4

12 VOLT COPPER LUGS for BATTERY CABLE

Featuring: Tin plating over solid copper for corrosion resistance, heavy duty



Part Number	Wire Gauge	Color Code	Stud Size	Description	Weight (lbs.)
LUG-8-10	8	Red	#10	For circuit breaker	.1
LUG-8-5/16	8	Red	#5/16	For negative post	.1
LUG-8-3/8	8	Red	#3/8	For positive post	.1

12 VOLT WIRE, RVI TYPE

Featuring: U.L. & C.S.A. listed for recreational vehicles, automotive, truck, trailer or marine use



Part Number	Wire Gauge	Color	U.L./C.S.A.	Weight (lbs.)
WR14-R	14	Red	Yes	3.0/C
WR14-B	14	Black	Yes	3.0/C
WR12-R	12	Red	Yes	4.0/C
WR12-B	12	Black	Yes	4.0/C
WR10-R	10	Red	Yes	6.0/C
WR10-B	10	Black	Yes	6.0/C
WR8-R	8	Red	Yes	8.0/C
WR8-B	8	Black	Yes	8.0/C

12 VOLT RING TERMINALS, HEAVY DUTY, VIBRATION RESISTANT, UL

Featuring: Nylon-insulated reinforced brass sleeve terminals, double crimp



PN	Stud size	Wire gauge	Color	U.L. listed	Weight (lbs.)
RING-10-14	10	16-14	Blue	Yes	3.0/C
RING-10-10	10	12-10	Yellow	Yes	3.0/C
RING-5/16-14	5/16	16-14	Blue	Yes	4.0/C
RING-5/16-10	5/16	12-10	Yellow	Yes	4.0/C
RING-3/8-14	3/8	16-14	Blue	Yes	3.0/C
RING-3/8-10	3/8	12-10	Yellow	Yes	3.0/C

12 VOLT PUSH-ON TERMINALS, .250", UL LISTED

Featuring: Reinforced with extra sleeve, nylon fully insulated butted seam, also functions as connector



PN	Wire Gauge	M/F	Color	U.L. listed	Weight (lbs.)
POTF-14	16-14	Female	Blue	Yes	5.0/C
POTM-14	16-14	Male	Blue	Yes	5.0/C
POTF-10	12-10	Female	Yellow	Yes	6.0/C
POTM-10	12-10	Male	Yellow	Yes	6.0/C

12 VOLT BUTT CONNECTORS VINYL INSULATED

Featuring: Vinyl insulated, butted seam butt connectors



PN	Wire gauge	Color	U.L. listed	Weight (lbs.)
BUTT-14	16-14	Blue	Yes	.5/C
BUTT-10	12-10	Yellow	Yes	.8/C
BUTT-8	8	Red	Yes	1.5/C

12 VOLT PARALLEL CONNECTORS, VINYL INSULATED

Featuring: Vinyl insulated, butted seam, to join two large wires with one crimp



PN	Gauge to Gauge	Color	Weight (lbs.)
PARACON-10/6	1 #8 to 1 #8 or 1 #10 to 1 #10, 8 or 6	Blue	.1
PARACON-8/4	1 #8 to 1 #4	Yellow	.1

12 VOLT SOLENOID

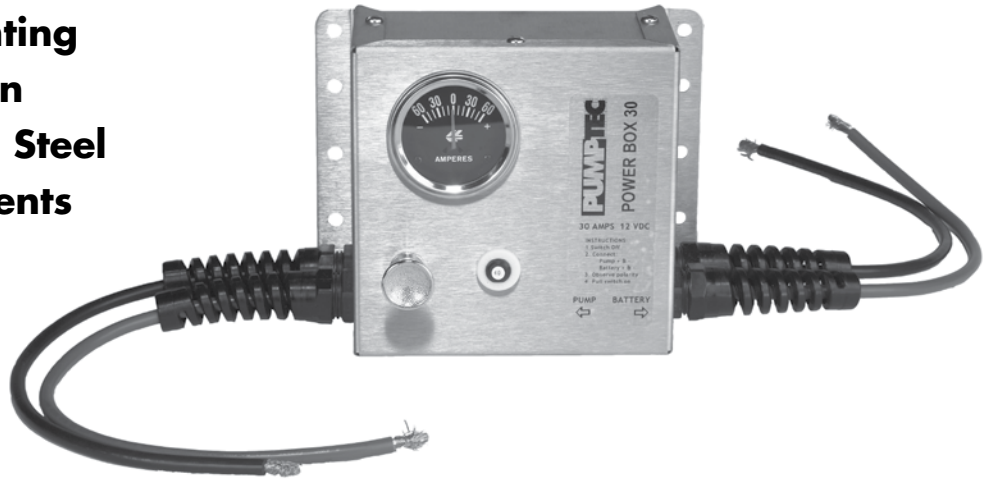
Featuring: Continuous duty solenoid or intermittent duty relay



PN	Volt rating	Amp rating	Description	Weight (lbs.)
30561	12	85	Solenoid S.P.S.T., N.O, on-off 5/16-24 load terminals, 10-32 switch terminals	1.0

Power Box™ Remote Control

- Convenient Mounting
- Simple Installation
- Durable Stainless Steel
- Reliable Components
- Affordable
- Selection
- Custom Order



Protect your 12 VDC system from overload

• CONVENIENT

Mount your control anywhere it is convenient for you. Mount on any surface, vertical or horizontal, with fasteners or Velcro™.

• SIMPLE

Simply connect red to (+), black to (-) on motor and battery and you are ready to go. To further simplify your installation we have optional Anderson™ connectors for “plug and play” simplicity.

• DURABLE

The durable stainless steel housing protects all electrical connections, switches, meters, solenoids and circuit breakers. Housing is weather resistant, but not weather proof, and must be kept out of direct water spray.

• RELIABLE

The Power Box is built for rugged commercial use. Choose 75 amp push/pull switch or 100 amp starter solenoid (activated by toggle switch) for high amperage applications. Choose either an instrument quality or automotive quality ammeter.

• AFFORDABLE

The Power Box pays for itself in labor savings alone. Imagine the time it would take to find all of these performance matched components.

• SELECTION

Select from four standard models.

• CUSTOM ORDER

Custom order the exact components and configuration for your OEM application.

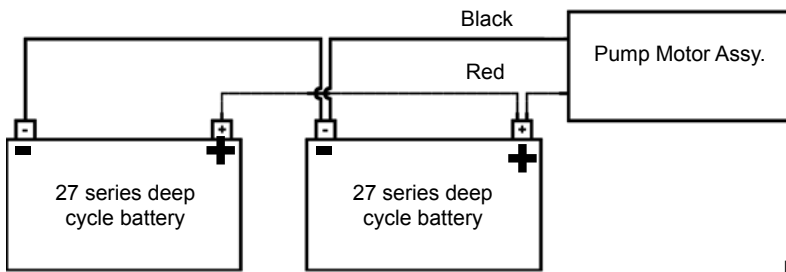
Select from four standard models

Model	Part no.	Amperage	Switch	Ammeter	Breaker
Power Box 30	80573	30	Push/Pull	Automotive	30 AMP
Power Box 40	80574	40	Push/Pull	Instrument	40 AMP
Power Box 50	80578	50	Solenoid	Instrument	50 AMP
Power Box 60	80579	60	Solenoid	Automotive	60 AMP

WIRING

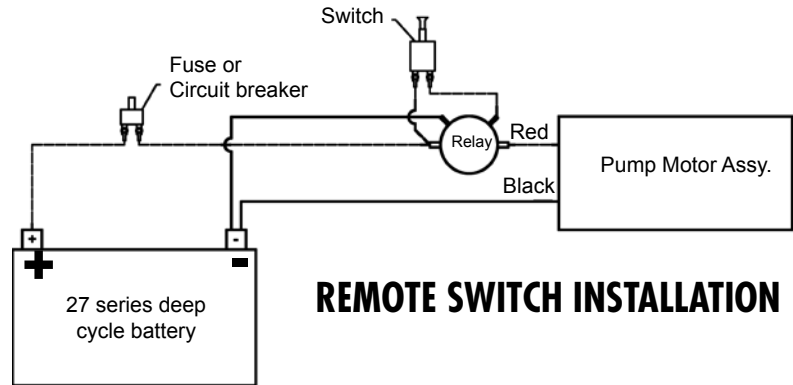
- 12 volt Pumping systems are unique in that most problems are likely to be electrical.
- If the pump motor is running and no water is coming out of the pump - you have a pump system problem.
- Almost every other problem will be related to electrical system.
- The most common causes of electrical problems are: Corroded battery terminals, corroded ground wire, corroded wire connector, inadequate wire size and damaged wire.
- Corrosion is "resistance" that causes a voltage decrease offset by an amperage increase, often resulting in melted wires.

DUAL BATTERY INSTALLATION



NOTE:
RETRACE ELECTRICAL WIRES TO BATTERY TO BE ABSOLUTELY CERTAIN (+) TERMINAL ON BATTERY GOES TO RED MOTOR WIRE. BLACK WIRE ON MOTOR GOES DIRECTLY TO (-) TERMINAL ON BATTERY.

NOTE:
RED IS POSITIVE (+)
BLACK IS NEGATIVE (-)



REMOTE SWITCH INSTALLATION

IMPORTANT: WARRANTY VOID IF YOU CONNECT ELECTRICAL WIRES BACKWARDS

WIRE AND CABLE SELCTION CHART

As a rule of thumb, consider the following a conservative guide

System Amperage	Wire Gauge	Pump Series
10	12	All
15	12	112T, 114T, 212T, 314T, 348U, 356U
20	10	212T, 314T, 348U, 356U
30	8	314T, 348U, 356U
40	6	348U, 356U
50	4	348U, 356U
60	4	356U
80	2	356U