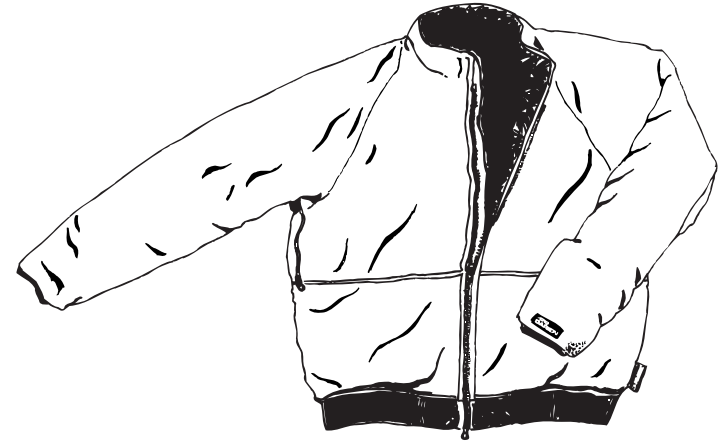


# KANETSU ELECTRIC LINER OWNER'S GUIDE



**1. INTRODUCTION;** Congratulations on your choice of an Aerostich Kanetsu Electric Liner. (KEL) Your KEL will provide additional warmth in a lightweight and compact package. It's soft, breathable fabrics allow wearing comfort in a wide range of temperatures, and the classic and functional design will stay in style and be wearable in many non-riding situations.

To insure high performance, comfort and satisfaction from your Kanetsu Electric Liner, please read this owner's guide. Call us at (218) 722-1927 if you have any questions, comments, or suggestions.

**2. SIZING & FITTING;** Kanetsu Electric Liners are offered in sizes Small through XXL. You should choose the size that matches your outer jacket. (A medium liner into a medium jacket, large into large, etc... It is possible to zip in and fit a liner that is one size smaller than the outer jacket, but doing so may create fit or freedom-of-movement problems.) Electric clothing is most effective when worn close to your body, but a garments' fit should not restrict your freedom-of-movement, or limit wearing comfort. Because of its design as a jacket liner, an optimally close fit for maximizing heat transfer is not possible. When

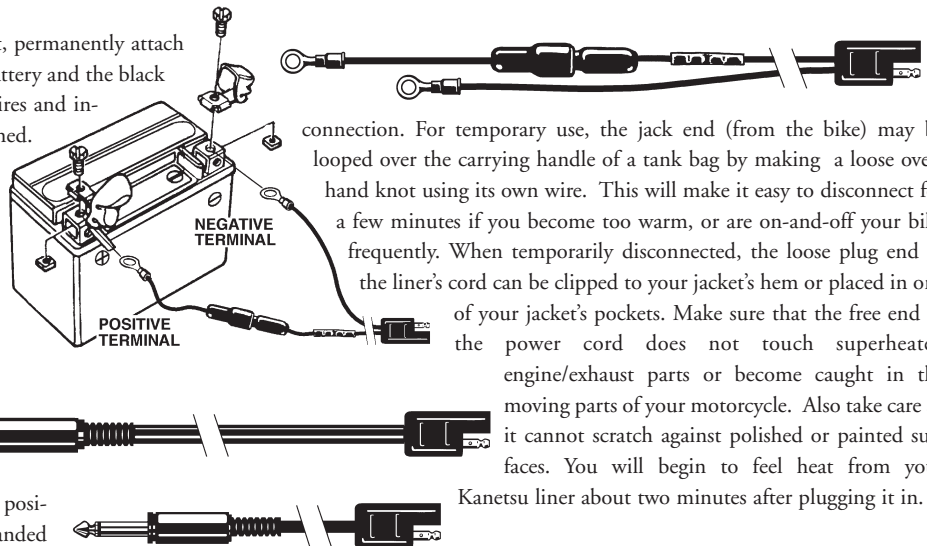
fitted correctly you should be able to feel additional heat, but you may not experience as much heat as can be felt from a closer fitting electric vest. The loose fit of this liner is necessary to allow it to match an outer jacket and to allow wearing additional layers underneath. A size Small Kanetsu Electric Liner is about equivalent to a men's 36" chest measure. Medium is a men's 38-40". Large is a 42-44". Extra Large is a 46-48". If you normally wear a size 40, you would probably fit best in a size Medium. By itself, the Kanetsu Electric Liner should fit about like a light jacket. Custom sizing alterations are available for sleeve length.

**3. ELECTRICAL SETUP AND OPERATION;** First, permanently attach the red power lead to the positive (+) terminal of your battery and the black power lead to the negative (-) terminal. Position the wires and in-line fuse holder where they cannot be abraded or pinched.

Route the waterproof connector end to a convenient access position on the left side of your motorcycle. Secure it in place with the enclosed zip tie.

To operate your Kanetsu Electric Liner, remove the power cord from its storage pocket, connect the cord to the vest, and zip the cord storage pocket closed with the cord hanging down on your left side. The coiled power cord routes out the left side of your riding clothing to the connector on your bike.

If you prefer the simplest, lightest and most reliable control setup, you may not want to use a thermostat or even a switch cord. For this setup, locate and position a Quiconnect Jack so that it allows an easy one handed



connection. For temporary use, the jack end (from the bike) may be looped over the carrying handle of a tank bag by making a loose over-hand knot using its own wire. This will make it easy to disconnect for a few minutes if you become too warm, or are on-and-off your bike frequently. When temporarily disconnected, the loose plug end of the liner's cord can be clipped to your jacket's hem or placed in one of your jacket's pockets. Make sure that the free end of the power cord does not touch superheated engine/exhaust parts or become caught in the moving parts of your motorcycle. Also take care so it cannot scratch against polished or painted surfaces. You will begin to feel heat from your Kanetsu liner about two minutes after plugging it in.

*BMW Compatibility note – The Kanetsu Darien Liner is not compatible with the 2006 BMW standard power outlet. These BMW CAN-bus outlets are limited to 5.0 amps, and the Kanetsu Darien Liner draws 5.5-5.7 amps, so the CAN-bus shuts down the circuit. The Kanetsu vest and Kanetsu Airvantage vest are ok, because they draw less amps (no heated sleeves...)*

*This liner can be used with 2006 BMW's if a fused outlet is attached directly to the battery, using the BMW Accessory Socket #108 and the #4664 fuse holder with a 10amp fuse, or if a 1.25 ohm resistor is inserted in the BMW accessory outlet circuit.*

**4. COOL WEATHER USE (20°-55°F);** There are several different ways to use your KEL Jacket for maximum warmth. Method #1: Install the Liner in your Darien (or other) jacket. A Darien jacket and Kanetsu Electric Liner will provide you with a 5° to 15° boost from the ambient temperature when worn over regular street clothing. Additional insulation or an electric vest can be worn between the Kanetsu Electric Liner and your street clothing during colder conditions. Method #2: Wear the KEL as close to your body as possible, fleece side out, over your usual T shirt, long sleeve riding shirt or other light garment. It is not necessary to install it into the Darien jacket. You may add insulating layers

between the Kanetsu liner and the outer Darien jacket. This locates the Kanetsu Electric Darien Liner closest to your body for maximum heat transfer. For either method, remove the power cord from its storage pocket, connect it to the liner and zip this pocket closed, leaving the cord hanging along your left side. Dressing in layers provides the most comfort and flexibility in cold conditions. Do not add too much insulation or your comfort and freedom of movement will be diminished. The closer to your skin, the more effectively the KEL will transfer heat to your body.

**5. WARM WEATHER USE (55°+);** In warmer weather you may wish to experiment with a variety of clothing combinations. Your Kanetsu Electric Liner is reversible and performs differently when worn each way. With the fleece side in towards your body, it's warming effect is moderated by the thickness and insulation of the fleece. When worn with the black nylon side towards your body the wires are positioned closer to you for better heat transfer. Worn this way the fleece insulation

helps retain heat in the airspace inside your jacket. For warmer conditions the collar may be folded down for increased comfort. This Kanetsu Electric Liner can be zipped (with the black nylon side towards your body) into an Aerostich Darien Jacket in place of the regular Darien liner. This combination makes a light yet warm riding jacket with extra electric heat available as needed.

**6. PACKING;** Disconnect the power cord and zip it into its storage pocket. Your Kanetsu Electric Liner may be stuffed into the large zippered storage pocket (in the back of the liner) by turning it inside out as you push the material into this pocket. Because the insulating fleece is such springy stuff, you may have to

practice a couple of times before being able to do it neatly and quickly. Folding the liner in half and rolling it up produces a less compact package that is faster and easier to access for short intervals.

**7. ELECTRIC LINER PRINCIPLES;** When you get cold, your body automatically decreases the amount of blood circulating to your limbs and skin in order to decrease the rate of heat loss and protect the head and vital organs for the longest possible time. When you're riding through a damp 55° evening and

your hands and feet feel frozen, it's because your body is trying to protect you by shutting off some of the blood to your extremities. An electric liner keeps your trunk and arms warm. Your body senses this and allows more blood to circulate to your fingers and toes, letting you ride in greater comfort and control.

**8. LAUNDRY AND CARE;** Do not dry clean. Machine washing is recommended. Remove contents of all pockets. Close all pockets and zippers. Wash using the regular cycle, and a "warm" water setting. Use only a mild detergent.

Hang dry or machine dry at low temperature setting. Silicone spray on the zipper teeth will help the slider move easier, and Scotchgard® or a similar spray will help water to "bead" on the liners' surface fibers in rainy conditions.

**9. EXCHANGES AND REPAIRS;** Please send all items insured and prepaid. Include your name, address, a daytime phone number and the reason for the return. Exchanges and returns for refund must be in new condition. Returns for repair must be clean. If your liner requires additional cleaning before being repaired, you will be charged. Some sewing shops in your area may be able to

repair your liner. If needed, call us, and we will send any materials required (such as fabrics, wires, zippers, etc.). If major repairs are needed, we will contact you with a quote before beginning work. If repair costs exceed half the liners replacement value the liner is "totalled", and will not be repaired.

**10. FEATURES & SPECIFICATIONS;** Reversible design. Heated, two position fleece faced collar. Lightweight GORE-TEX® Windstopper or TL Tec 200 windblock fleece outer fabric with Supernyl fabric lining. Durable nylon knit cuffs and hem. Self-storage zipper pocket. Cord storage pocket. Detachable coil cord with integrated and lighted on/off switch. Easy to connect jack and plug. Full coverage, three circuit internal wiring layout (including collar) with safe and durable Zanflex resistance wire.

Elastic waist gathers for a closer fit. Fused power cord. Machine washable.

The Kanetsu Electric Liner is reversible and can be worn either way. The KEL zips into an Aerostich Darien outer jacket (in place of the standard liner) with it's black nylon side towards you and the fleece side towards the outer jacket.

Power requirements: 77 watts at 13.6volts. 5.7 amps

Inline fuse type: AGC 1 1/4" Size: 10 AMP

**LIMITED GUARANTEE** To the original purchaser, Aero Design & Manufacturing Company, Inc., the manufacturer and seller of Aerostich RiderWear products, guarantees all Aerostich RiderWearHouse products against defects in materials and workmanship for two full years. Since no Aerostich product is indestructible, this guarantee does not cover: ordinary wear, soiling, aging, misuse or accidents. Repairs due to normal wear and tear over time or accidents will be done at a reasonable charge.



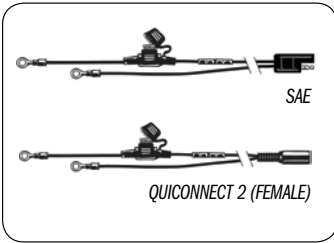
**MONEY-BACK SATISFACTION:** If you are dissatisfied with any RiderWearHouse Catalog product in any way, you have 30 days from the date of delivery to return the item in an undamaged and unsoiled condition for a full refund, by pre-paid delivery to: Aero Design and Manufacturing Company, Inc., 8 South 18th Ave West, Duluth, Minnesota, 55806. Crafted With Pride in the U.S.A.

**ABOUT THE NAME KANETSU;** Kanetsu is a Japanese word that combines two Kanji language characters/symbols. 'Ka' means 'adding or increasing' and 'Netsu' means 'heat or temperature'. Kanetsu = Adding heat. In 1995, the Aerostich electric vest was introduced in a RiderWearHouse Catalog several months before we were actually able to produce them. (They were un-obtainable.) The name 'Unobtainium' fit the circumstances so it was registered as the vest's trademark in the category of clothing. Several years later the Oakley company, which owned an 'Unobtainium' trademark in another category (rubber

for eyeglass ear stems and motorcycle hand grips), said that this use was damaging to them. Although we had a good legal position, the cost to defend our 'Unobtainium' trademark would have been several hundred thousand dollars...so we settled the lawsuit and give this trademark to Oakley. We could not support a full defense and the Kanetsu electric vest (and Darien liner) had become entirely and immediately obtainable, anyway. Kanetsu electric liners and vests are now sold worldwide...including in Japan.

**FINALLY;** Your Kanetsu Darien Liner was made by hand by a team of experts who are proud of the quality built into each garment. You can expect your liner to last for many years and thousands of miles. We hope that you will enjoy your

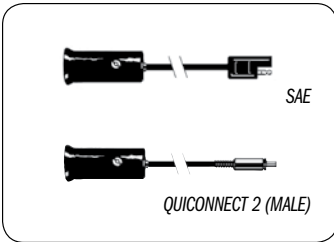
liner for many years and thousands of miles and will experience new levels of safe, comfortable and warm motorcycling. Good riding!



### Battery Fuse Cords

Use a Kanetsu Vest or Electric Darien Liner with a second motorcycle. Standard equipment supplied with all new Kanetsu Vests or Electric Darien Liners. 10 A Fuse. Length 25".

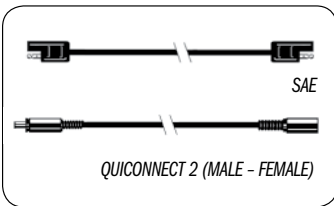
SAE #112 \$10.00  
QuiConnect 2 #176 \$10.00



### Power Sockets

A short connector wire with a plug that fits a cigarette lighter/accessory socket. The other end fits your Kanetsu Vest Switch or Electric Darien Liner cords. Specify SAE or QuiConnect 2. Length 7".

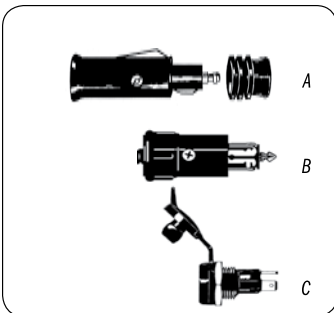
SAE #168 \$10.00  
QuiConnect 2 #169 \$10.00



### Powercord Extensions

A straight cord that allows the attachment point to be relocated to a higher and/or more forward point for easier use. Length 30".

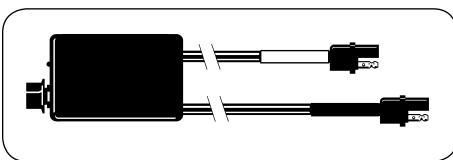
(A) SAE #109 \$8.00  
(B) QuiConnect 2 #179 \$8.00



### BMW Plugs & Sockets

The Dual Plug (A) is a standard male cigarette power plug that is also compatible with standard BMW power sockets upon removal of the end bushing. The BMW Plug (B) is a standard BMW power plug. The BMW Socket (C) installs to connect BMW power plugs to your bike.

(A) Dual Plug #185 \$10.00  
(B) BMW Plug #181 \$8.00  
(C) BMW Socket #108 \$12.00

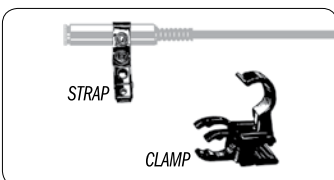


### Thermostat

This thermostat works by digitally regulating the amount of power to the garment. It draws less than the full 45

watts at intermediate settings. (Resistance type thermostats draw full power at all settings.) The Aerostich Heat-Troller features a rotary on/off switch and an LED that blinks faster as you turn up the heat. (At the maximum setting the light is on continuously.) The case size is 1.5"x2.25"x.75". The Aerostich Heat-Troller is available with SAE connectors. Panel mount model includes everything needed for permanent installation. Both cords are 16" long.

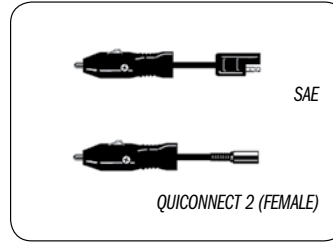
SAE Thermostat #110 \$70.00  
Thermostat Panel Mount #189 \$80.00



### Cable Clips

Route wiring to the best places. Strap has a spring clip end and a cord-holding snap end. Clamp grabs it all.

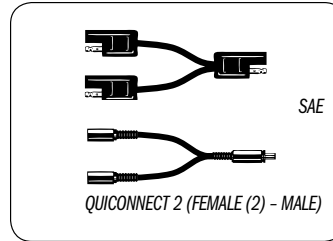
Strap #180 \$2.00  
Clamp #182 \$2.00



### Power Plugs

Connect your Kanetsu Vest or Electric Darien Liner to a cigarette lighter/accessory socket to wear these heated garments in automobiles, construction equipment, on snowmobiles, etc. Cord length is only 1".

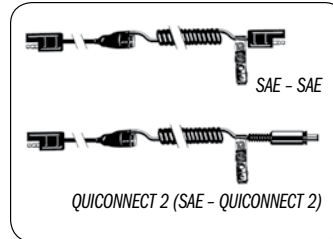
SAE #117 \$10.00  
QuiConnect 2 #167 \$10.00  
BMW #116 \$16.00



### Double Adapters

Allows two vests to be connected to a single power plug. Or, for near-volcanic heat in the most wretched of conditions, use the Electric Vest and the Electric Darien Liner together. Cord length is 2".

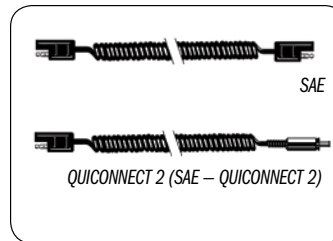
SAE #111 \$12.00  
QuiConnect 2 #191 \$12.00



### Switch Coil Cords

Standard equipment supplied with all Kanetsu Vests and Electric Darien Liners. Flexible in cool temps. Features an illuminated push button on/off switch. Stretches from 3' to 6'.

SAE #113 \$37.00  
QuiConnect 2 #173 \$37.00  
BMW #107 \$47.00



### Coil Cords

A coil cord for connecting the vest to the motorcycle. The ultimate in simplicity and reliability. Remains flexible in all temperatures. Stretches from 1.5' to 5'.

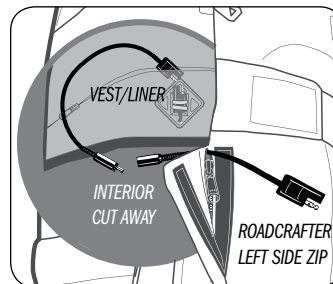
SAE #114 \$15.00  
QuiConnect 2 #174 \$15.00



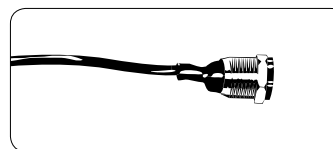
### QuiConnect 2 Jumper Cord

This connector is used as a suit side entry pocket pass-through, by eliminating the need to thread the power wire through the side entry zip in one piece suits each time you use an electric vest. The SAE end plugs into the electric garment, ending in a QuiConnect 2 coaxial male connector (inside the suit). Captured by the side entry zip, this connects to a 6.5" QuiConnect female wire with an SAE end to connect to the standard switch coil cord (outside the suit).

#162 \$17.00



**QUICONNECT 2 JUMPERCORD:** THE SHORT CORD SECTION IS "CAPTURED" BY LEFT SIDE OF ROADCRAFTER POCKET ACCESS ZIP FOR FAST SUIT ON/OFF OVER ELECTRIC GEAR.

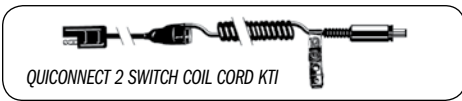


### QuiConnect 2 Panel Mount

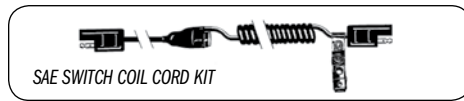
Permanently mount a female QuiConnect 2 to your bike. Fits a 7/16" wide hole in a 1/4" thick surface. 1/2" deep. Cord length: 21".

#166 \$10.00

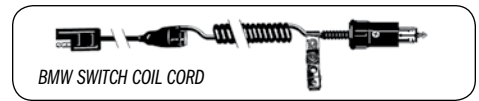
# CONNECTOR KIT COMPARISON



QUICONNECT 2 SWITCH COIL CORD KIT

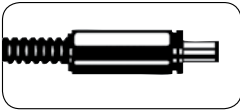


SAE SWITCH COIL CORD KIT



BMW SWITCH COIL CORD

Kanetsu Electric Vests and Liners come standard with either the 'QuiConnect 2 Switch Coil Cord Kit', the 'SAE Switch Coil Cord Kit', or the 'BMW Switch Coil Cord'.



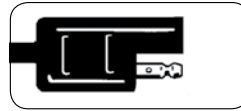
## QuiConnect 2 Switch Coil Cord Kit

A coil cord with illuminated two position switch and QuiConnect 2 coaxial plug. SAE plug on the other end goes into Kanetsu Vest or Electric Darien Liner. Very easy to use. Switch has an 'up' and 'down' position and an illuminated button to indicate its function. Stretches from 3' to 6'. Cord remains flexible at low temps. Includes Battery Fuse Cord #176, Powercord Extension #179, and Switch Coil Cord #173.

#172 \$47.00

## QuiConnect 2 Kit Features

- Easier to connect/disconnect with gloves and for frequent on/off stops for gas, etc...
- Not waterproof by design but there have been no failures (none) after use by 1000's of riders over 15 years. (Several brands of electric clothing).
- May be connected/disconnected one-handed.
- Will disconnect without damage if pulled by cord (as occurs when walking away from bike without first disconnecting).



## SAE Switch Coil Cord Kit

A coil cord for connecting the vest to the plug on the motorcycle. Remains flexible at low temperatures. Push button on/off switch. Switch has an 'up' and 'down' position and an illuminated button to indicate its function. Stretches from 3' to 6'. Includes Battery Fuse Cord #112, Powercord Extension #109, and Switch Coil Cord #113.

#188 \$47.00

## SAE Kit Features

- Very reliable - molded into a single piece with power cord.
- Waterproof and rugged-unaffected by rain, mist, dirt.
- Connecting and disconnecting takes two hands and requires careful alignment. Needs to be worked on and off a few times to 'break-in'.

## BMW Switch Coil Cord

A connector wire that fits the standard BMW accessory socket. The separately available matching socket is extremely robust and weather resistant, fits in a 5/8" panel hole and plugs and unplugs very nicely. Cord features an illuminated two-position button. Stretches from 3' to 6'. *Socket requires additional wiring (not included) to connect to motorcycle battery.*

Cord #107 \$47.00

Accessory Socket #108 \$12.00

# ELECTRICAL ITEMS



## Not Quite Card Sized Multimeter

Trouble-shoot electrical problems with this slim-line design digital multimeter. Small yet rugged enough to carry on motorcycle trips. Only slightly larger than a credit card, the Wavetek DM78 features full autoranging, DC volts, AC volts, ohms, continuity, and diode test functions. Comes complete with batteries, instructions, test leads, and carrying case.

Delivers all the functions of a full size multimeter in an easier to carry (and use) size. 4.25"x2.25"x.875".

#2510 \$57.00



## Fused SAE Jack

A CNC machined aluminum and stainless steel holder containing a blade fuse and an SAE outlet that can be mounted anywhere on a bike. Makes using battery chargers, electric clothing and other accessories a lot neater and easier. Includes an assortment of fuse sizes, a great installation guide and everything else needed for a ready-to-go mounting. This is the cleanest

way to jack in, and is made by a dedicated rider who wanted a neater setup than loose dangling power cords.

#2548 \$64.00



## LED Battery Gauge

A precise, continuous way to monitor your bike's alternator output and battery condition. An essential instrument if your bike has bigger or extra lights, or other powered accessories. Its solid state, waterproof, ultra compact design is extremely durable. Small so it fits anywhere. Indicates from 9V to 16V using eight colored LED's. A sensor auto-dims the LED's at night. If the voltage readout goes below 10V, a red LED alert flashes. Small electrical system changes are noticeable at a glance. Two wire installation. 2"x.75"x.2"

#2577 \$39.00



## Auxiliary Power Fused Panels

Supply convenient, safe fused power for up to eight individual electronic devices, such as radios, MP3 players, GPS's and other accessories. The Centech AP1 handles up to 60 amps and allows for eight connected outputs that remain on when your bike is running, off when it's not. The Centech AP2 version allows for five 'on when running/off when not' outputs and three "always on" outputs that remain active after your bike is turned off. This is especially helpful for devices that need to remain "live" such as radio memories and some GPS units. Made using plated contacts and stainless steel hardware, with a built-in grounding system, these units are rugged and water resistant multiple accessory wiring solutions. Their compact size (3"x2.4"x1") allows for easy installation inside fairings, under saddles and in other tight spots. Lugless terminals mean you simply strip wire ends, insert, and tighten set screws. Includes fuses, all mounting hardware and complete instructions. Neat, easy and safe.

AP-1 #2549 \$57.00

AP-2 #2538 \$57.00

AP-2 Wiring Harness (required for split-use function) #2539 \$36.00



## Battery Tender Plus®

An improved version of the famous Battery Tender®. Lucky for you (and your battery) the cost is the same. The enhancements to the original design are in the circuitry that ensures better absorption and a built-in 72 hour safety timer will protect a marginal battery from being overcharged. The display improvements tell the user that AC power is on, when it is charging, that the battery is 80% charged, that full charge has been attained, and the unit is in 'float' charge mode. A good, useful product that just got better. Electrifying.

#2504 \$64.00

Gel Battery Charger (not shown) #4908 \$64.00

BMW Adapter Plug #116 \$16.00