

Technical Application Guide

E-MOBILITY

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High Performance Connectors

Anderson Power Products® offers the safety and performance you expect from a connector for your e-mobility application. Certified by UL, CSA/TUV and IEC standards ensures that your product will have the highest performance for your application.

Keyed genderless housings offer protection from incorrect voltages being mated while reducing the need to carry both female and male housings. Chemical resistant housings are rated for -40°C to 105°C , while offering additional protection against harsh chemicals. Compared with standard solutions, our technology provides high quality solutions at reasonable pricing.

Why Anderson Power Products®

Anderson Power Products® has established a reputation as being the leader for high quality products, on-time deliveries and excellent customer service. As a result of modern manufacturing techniques, rigorous quality control measures, best practice training and extensive testing we ensure our customers receive the quality products and service they deserve.

Anderson Power Products® is a leader in designing high quality connectors ideal for the following personal mobility markets and beyond:



2 & 3 Wheel Scooters



E-Bikes



Electric Vehicles



Lawn / Turf Equipment



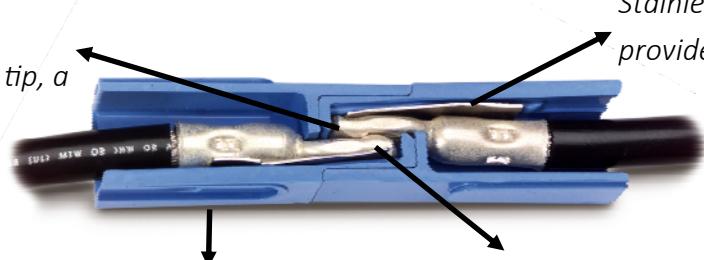
Golf Carts



All Terrain Vehicles

Our patented contact technology provides a low resistance connection with large conducting surface and a high normal force versus a typical pin and socket design ensuring a more stable connection. Designed to handle over 10,000 mating cycles, the sacrificial tip confines damage to the non-conducting area when mating or breaking under load. The over wipe design ensures a clean connection surface each and every time a connection is made.

*If broken under load,
arching is confined to tip, a
non-conducting area*



*Stainless steel leaf spring
provides constant contact pressure*

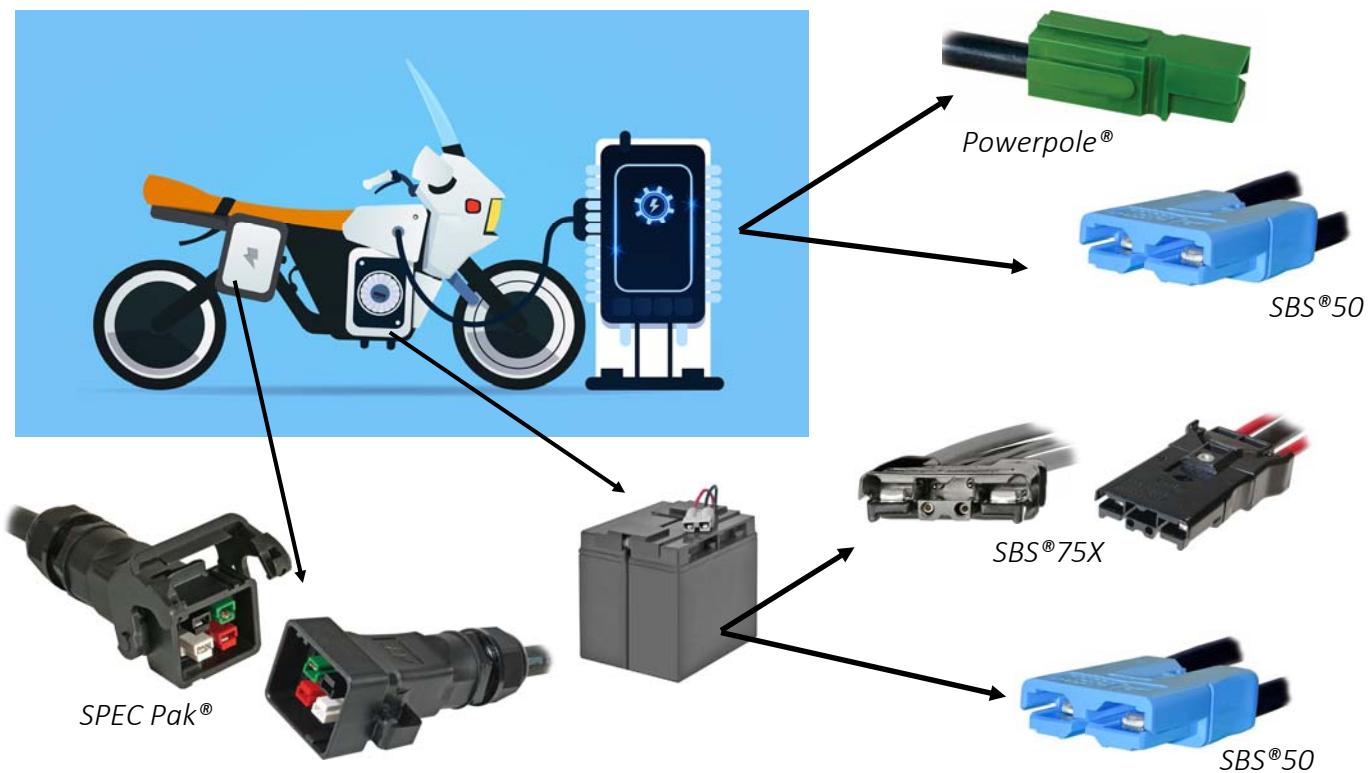
*Wiping action on make and break
keeps conducting surfaces clear*

Bringing Power and Signaling to Your Application

Anderson™ connectors are designed to work within your applications to bring power or power and signaling to and from the following equipment:



Design Consideration



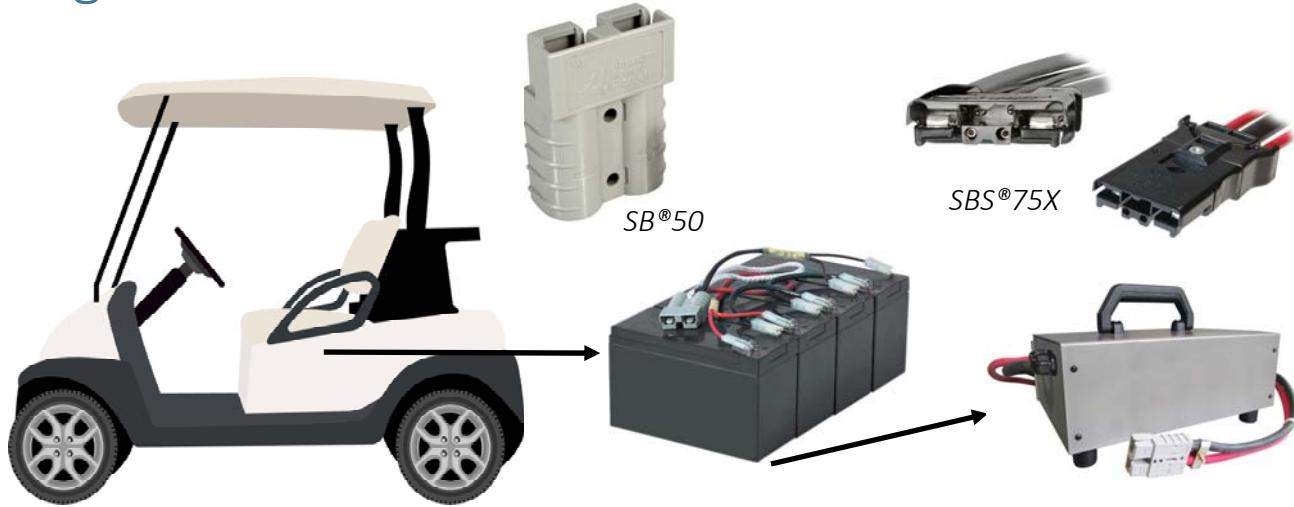
SPEC Pak®

Need IP Rated protection? SPEC Pak® offers power solutions that provide a sealed environment for water tight protection rated for IP68.

Powerpole®

Powerpole® and multipoles are high quality solutions from the battery to charging outlets. SBS®50 designed to work with lead acid, SBS®75X designed with signaling capabilities for Lithium Ion monitoring.

Design Features



SB®50 / SBS®50 Product Features

System Flexibility

- Genderless housings
- Color coded by voltage rating

Safety

- Hot plugging for AC or DC power
- Keyed housings to prevent incorrect voltage mating

Reliability

- Reliable operation between:
 - -20°C and 105°C standard housing
 - -40°C and 105°C chemical resistant housing
- Housing IP20 mated / with sealing boot IP64
- Self securing design

SBS®75X Product Features

System Flexibility

- Offers 4 auxiliary and 2 primary positions for power and signaling capabilities
- Mechanical keys are color coded

Safety

- Touch safe interface in a genderless design
- Hot plugging for AC or DC power

Reliability

- Reliable operation between:
 - -20°C and 105°C standard housing
 - -40°C and 105°C chemical resistant housing
- IP20 rating mated
- ♦ Self securing design

Don't see your market or the connector that meets your needs?

We invite you to contact our sales department at 978-422-3800 or check out our web store at www.andersonpower.com. We specialize in the design and manufacture of custom high current connection systems to meet specific customer requirements. Our expertise in high amperage connections, multiple types of contact technology and molded plastic insulators allow us to provide durable, high power connections that fulfill our customer needs.

Specifications

| | Powerpole® | SB® | SBS® | SPEC Pak® |
|---|---|---|---|---|
| Current Rating (Amperes) | | | | |
| Power Contacts | up to 350 | up to 450 | up to 110 | Up to 310 |
| Auxiliary Contacts (UL) ⁽¹⁾ | | | up to 20 | 1 |
| Voltage Rating (AC/DC) | 600 UL | 600 UL | 600 UL | 600 UL |
| Contact Barrel Wire Size | | | | |
| (AWG) - Power Contacts | 20 to 3/0 | 16 to 300 mcm | 20 to 6 | 20 to 3/0 |
| - Auxiliary/Signal Contacts | 24 to 20 | | 24 to 12 | 24 to 20 |
| (mm ²) - Power Contacts | 0.75 to 85 | 1.5 to 150 | 0.75 to 10 | 0.75 to 85.0 |
| - Auxiliary/Signal Contacts | 0.5 | | 0.5 to 2.5 | 0.5 to 2.5 |
| Dielectric Withstanding Voltage (AC) | 1,600 to 2,200 | 2,200 | 2,200 | 3,000 |
| Mating Cycles | | | | |
| Power | 1,500 to 10,000 ⁽⁴⁾ | 10,000 | 10,000 | 1,500 to 10,000 |
| Signal | | | Up to 10,000 | 1,500 |
| Operating Temperature | | | | |
| (°C) ⁽²⁾ | -20° to 105° (PC) -40° to 105° (CR) ⁽³⁾ | -20° to 105° (PC) -40° to 105° (CR) ⁽³⁾ | -20° to 105° (PC) -40° to 105° (CR) ⁽³⁾ | -20° to 105° (PC) -40° to 105° (PBT) |
| (°F) | -4° to 221° (PC) -40° to 221° (CR) ⁽³⁾ | -4° to 221° (PC) -40° to 221° (CR) ⁽³⁾ | -4° to 221° (PC) -40° to 221° (CR) ⁽³⁾ | -4° to 221° (PC) -40° to 221° (PBT) |
| Touch Safety | IP10 IEC 60529 | IP20 IEC 60529 | IP10 IEC 60529 | UL 1977 Sec. 10.2 |

NOTES

(1) UL rated for largest wire or cable size up to the maximum operating temperature

(2) Contact factory for higher temperature rated connectors

(3) On CR (Chemical Resistant) versions where available

(4) 10,000 based on using silver plated contacts

(5) Chart gives maximum capabilities; refer to specific product specifications

Features

| | Powerpole® | SB® | SBS® | SPEC Pak® |
|---------------------------|------------|-------|-------|-----------|
| Touch Safe | • | • | • | • |
| Blindmate | • | | | |
| Latching | • | | | • |
| Flame Resistance | • | • | • | • |
| Hot Plug | • | • | • | • |
| Auxiliary Contacts | | | • | • |
| Housing Style | | | | |
| - PCB | • | • | • | |
| - Wire | • | • | • | • |
| - Busbar | • | • | | |
| Number of Poles | | | | |
| - Power | 1 | 2 - 3 | 2 + 3 | up to 9 |
| - Auxiliary | | | 4 | up to 24 |

Certifications

Anderson™ connectors strictly follow applicable standards and certifications. The product complies with UL, CSA, IEC and RoHS.



Application Notes

- Modifications to the product will void all warranties. For warranty information, please visit www.andersonpower.com.
- Users and installers are required to read and understand the supplied installation guides and warnings.
- Solid wires are not recommended.

All Data Subject to Change Without Notice AG-Mobility Rev 0

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