

# Technical Application Guide

## E-M MOBILITY

### E-MOBILITY

#### High Performance Connectors

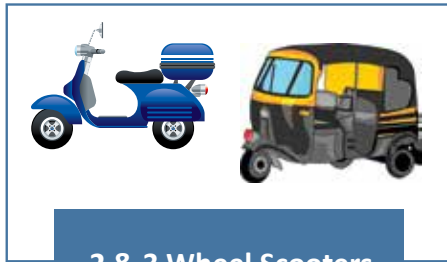
Anderson Power Products® offers the safety and performance you expect from a connector for your e-mobility application. Certified by UL, CSA/TUV and IEC standards ensures that your product will have the highest performance for your application.

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.

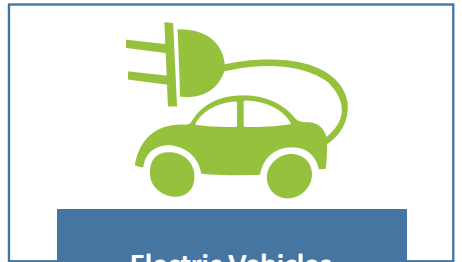
Anderson Power Products® is a leader in designing high quality connectors ideal for the following personal mobility markets and beyond:



**2 & 3 Wheel Scooters**



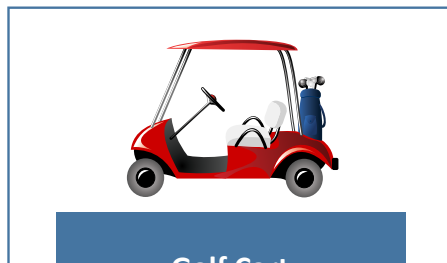
**E-Bikes**



**Electric Vehicles**



**Lawn / Turf Equipment**



**Golf Cart**

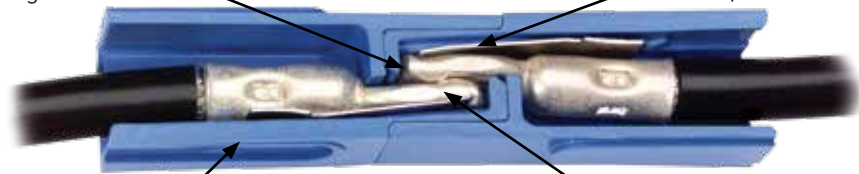


**All Terrain Vehicles**

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*

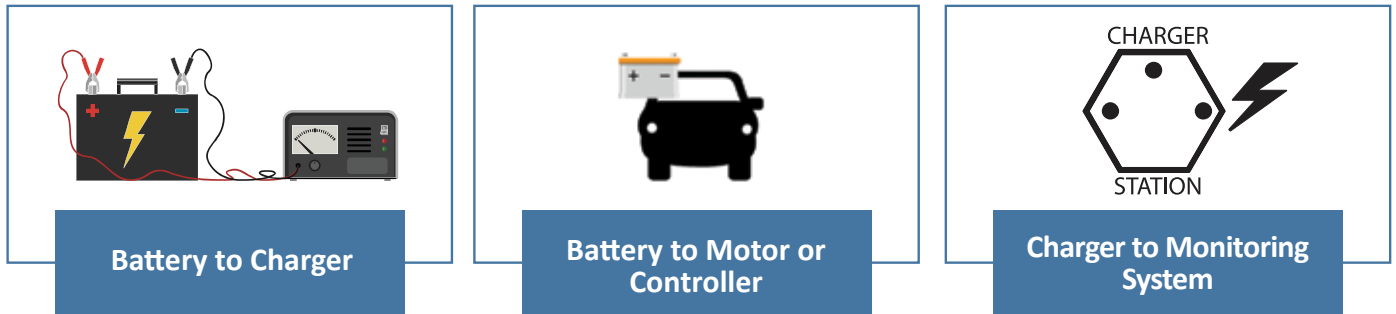


*Molded-in dovetails*

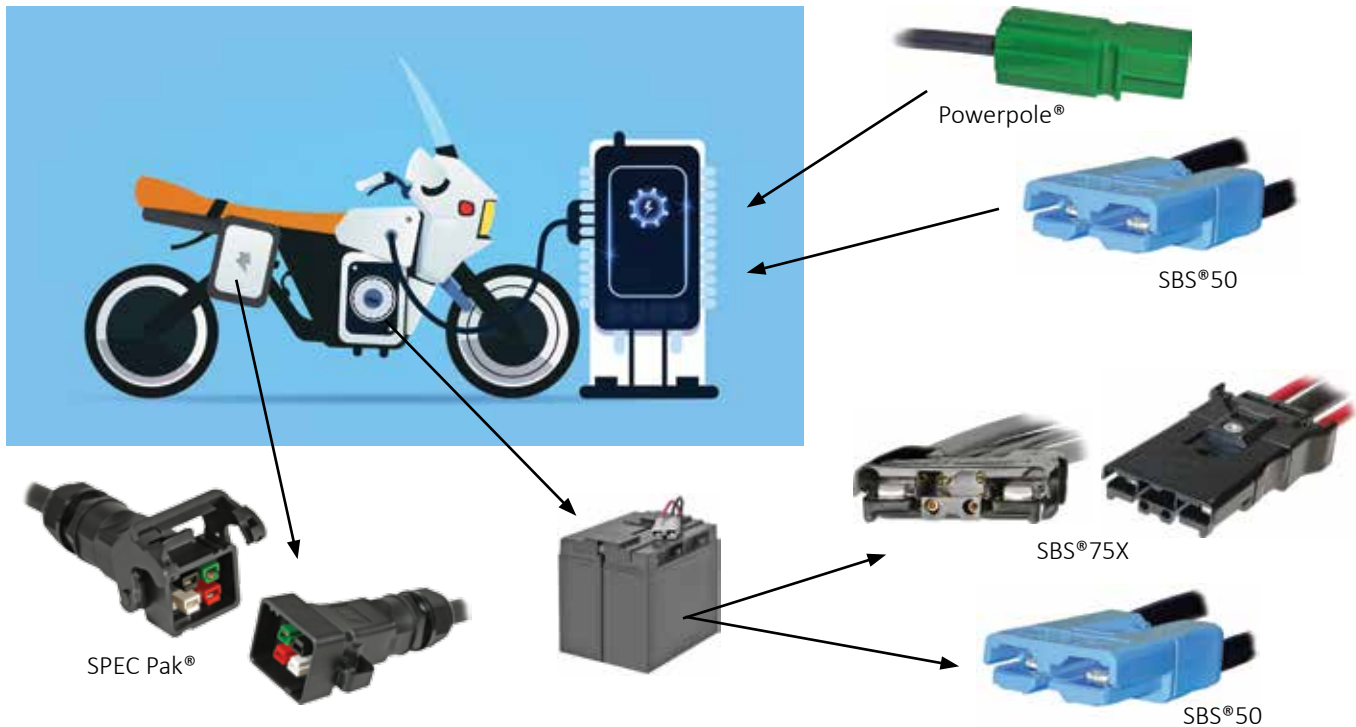
*Wiping action on make and break keeps conducting surfaces clear*

# 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



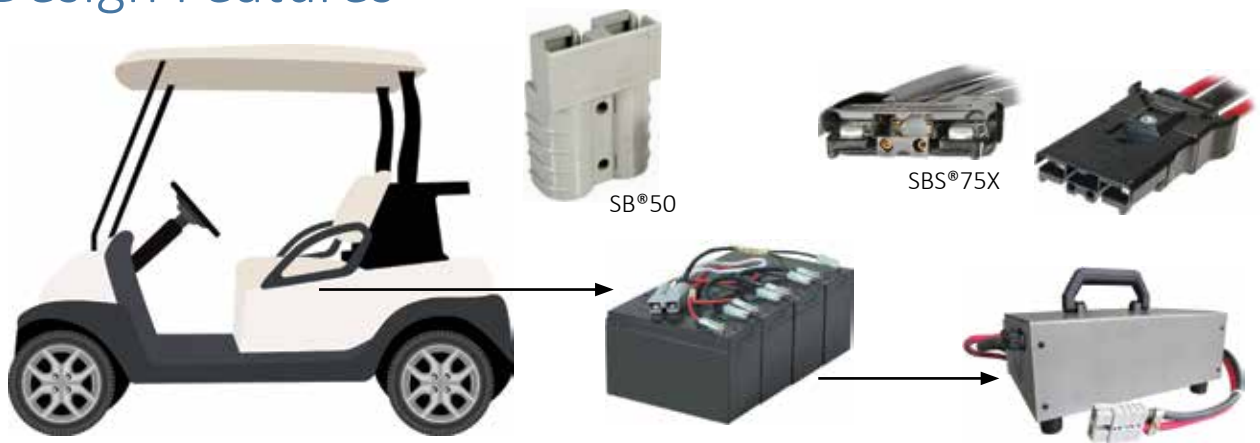
### SPEC Pak®

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

- 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](http://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®
<b>Current Rating (Amperes)</b>				
Power Contacts	Up to 350	Up to 450	Up to 110	Up to 310
Auxiliary Contacts (UL) <sup>(1)</sup>			Up to 20	1
<b>Contact Voltage Rating (AC/DC)</b>	600 UL	600 UL	600 UL	600 UL
<b>Contact Barrel Wire Size</b>				
(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 <sup>2</sup> )- 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
<b>Dielectric Withstanding Voltage (AC)</b>	1,600 to 2,200	2,200	2,200	3,000
<b>Mating Cycles</b>				
Power	1,500 to 10,000 <sup>(4)</sup>	10,000	10,000	1,500 to 10,000
Signal			Up to 10,000	1,500
<b>Operating Temperature</b>				
(°C) <sup>(2)</sup>	-20° to 105° (PC)	-20° to 105° (PC)	-20° to 105° (PC)	-20° to 105° (PC)
	-40° to 105° (CR) <sup>(3)</sup>	-40° to 105° (CR) <sup>(3)</sup>	-40° to 105° (CR) <sup>(3)</sup>	-40° to 105° (PBT)
(°F)	-4° to 221° (PC)	-4° to 221° (PC)	-4° to 221° (PC)	-4° to 221° (PC)
	-40° to 221° (CR) <sup>(3)</sup>	-40° to 221° (CR) <sup>(3)</sup>	-40° to 221° (CR) <sup>(3)</sup>	-40° to 221° (PBT)
<b>Touch Safety</b>	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

	Powerpole®	SB®	SBS®	SPEC Pak®
<b>Touch Safe</b>	•	•	•	•
<b>Blindmate</b>	•			
<b>Latching</b>	•			•
<b>Flame Resistance</b>	•	•	•	•
<b>Hot Plug</b>	•	•	•	•
<b>Auxiliary Contacts</b>			•	•
<b>Housing Style</b>				
- PCB	•	•	•	
- Wire	•	•	•	•
- Busbar	•	•		
<b>Number of Poles</b>				
- 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](http://www.andersonpower.com).
- Users and installers are required to read and understand the supplied installation guides and warnings.
- Solid wires are not recommended.

### HEADQUARTERS

Anderson Power Products®  
13 Pratts Junction Road  
Sterling, MA 01564-2305 USA  
T: +(1) 978-422-3600  
F: +(1) 978-422-0128

### EUROPE

Anderson Power Products® Ltd.  
Unit 3 Europa Court  
Europa Boulevard  
Westbrook, Warrington  
Cheshire, WA5 7TN United Kingdom  
T: +44 (0) 1925 428390  
F: +44 (0) 1925 520203

### ASIA / PACIFIC

IDEAL Anderson Asia Pacific Ltd.  
Unit 922-928, Topsail Plaza  
11 On Sum Street  
Shatin N.T., Hong Kong  
T: +(852) 2636 0836  
F: +(852) 2635 9036

### CHINA

IDEAL Anderson Technologies (Shenzhen) Ltd.  
Block A8, Tantou Western Industrial Park  
Songgang, Baoan District  
Shenzhen, P.R. China 518105  
T: +(86) 755 2768 2118/3393 2388  
F: +(86) 755 2768 2218

### TAIWAN

IDEAL Anderson Asia Pacific Ltd.  
Taiwan Branch, 4F.-2, No.116  
Dadun 20th St., Situn District  
Taichung City 407, Taiwan (R.O.C.)  
T: +(886) 4 2310 6451  
F: +(886) 4 2310 6460

### INDIA

IDEAL INDUSTRIES India Private Limited  
229-230, SPAZEDGE, Tower B  
Sector 47, Sohna Road, Gurgaon – 122018  
Haryana, India  
T: +(91) 956 007 5905  
[www.ideal-industries.in](http://www.ideal-industries.in)

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2020-0009

AG-MOBILITY REV 1

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