

Technical Application Guide



E-BIKE

E-BIKE

High Performance Connectors

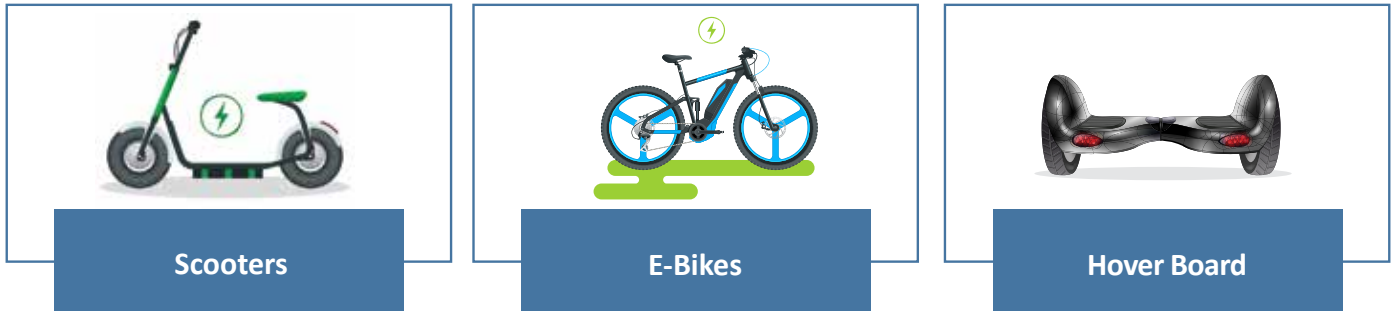
Anderson Power Products® (APP®) offers the safety and performance you expect from a connector for your E-BIKE application. Certified by UL standards ensures that your product will have the highest performance for your application.

SPEC Pak® connector series are rugged and environmentally sealed (IP68) certified connectors made from polycarbonate (PC) material, UL94 V-0 flame resistant and offering operating temperature of -20 to 105°C (-4 to -221°F). Available in wire-to-wire or wire-to-panel configurations. Utilizing the proven PowerMod® pin and socket technology for power, signaling or ground capabilities in applications demanding waterproof high power solutions.

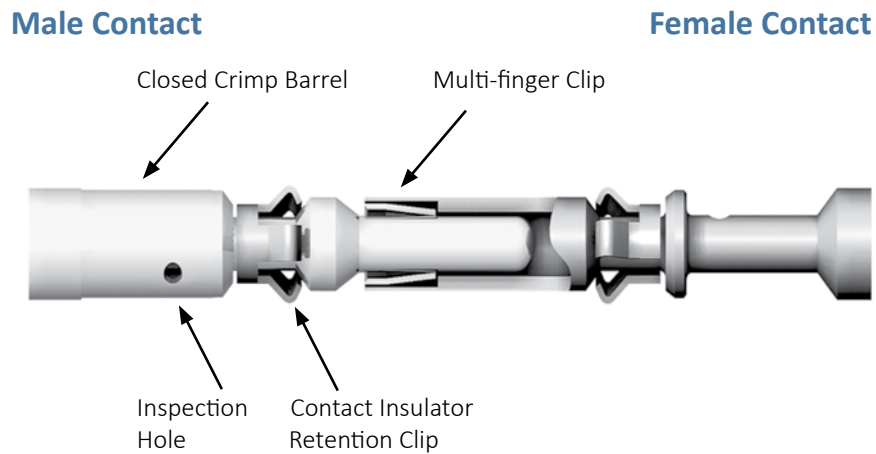
Why Anderson Power Products®

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:



The PowerMod® contact series provide a low resistance connection and durable of up to 10,000 mating cycles. The high quality gold plated contacts are available in standard, premate and postmate sizes to allow for sequencing of circuits.



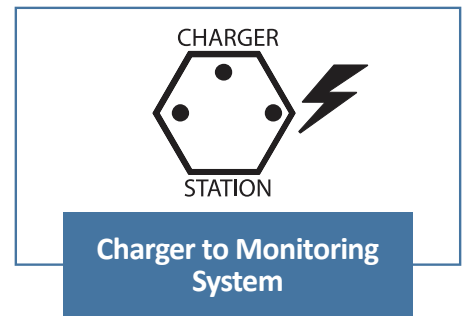
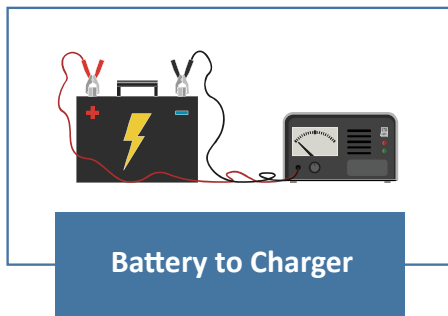
Male Crimp Contacts



Female Crimp Contact

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®

SPEC Pak® offers power solutions that provide a sealed environment for watertight protection rated for IP68. See specifications on following page.

Price Effective Power Solution



Powerpole® 15/45 series connectors are the smallest of the Powerpole® family but capabilities up to 55 amps per pole. Can be used in applications requiring wire-to-wire or wire-to-board, accommodating wire sizes from 20 to 10 AWG (0.75 to 6 mm²).

Looking for a Blind Mate Solution?



Blind Mate Pak Connector is ideal for panel to panel, bulkhead to bulkhead, or rack mount applications that require the power connector to compensate for up to 0.45 in. (11.43 mm) of misalignment in either axis. Eight positions can be filled with Powerpole® 15/45 connectors. The receptacle side can be used with wire or PCB contacts.

For more information checkout our full catalog at

<https://www.andersonpower.com/content/dam/app/ecommerce/product-pdfs/CAT-PPMP.pdf>

Design Features



3 Pole Mini PL SPEC Pak®

5 Pole Mini PL SPEC Pak®

3 Pole Mini PL SPEC Pak®

Manual Release Latch

- Prevents accidental un-mating
- UL rated 22A

Pin & Socket Contact Technology

- Gold plated for greater conductivity

3 Pin Lengths Available

- Offers sequencing capabilities

Touch Safe per UL 1977 Sec. 10.2

- Touch safe on both pin & socket sides

Rugged & Environmentally Sealed Shells

- F1 weatherability rating per UL 746C
- V0 flammability rating per UL 94
- IP68, exceeds industry standards

5 Pole Mini PL SPEC Pak®

Manual Release Latch

- Prevents accidental un-mating
- UL rated 23A

Pin & Socket Contact Technology

- Gold plated for greater connectivity

3 Pin Lengths Available

- Offers sequencing capabilities

Touch Safe per UL 1977 Sec. 10.2

- Touch safe on both pin & socket sides

Rugged & Environmentally Sealed Shells

- F1 weatherability rating per UL 746C
- V0 flammability rating per UL 94
- IP68, exceeds industry standards

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

3 Pole Mini PL SPEC Pak®

ELECTRICAL

Current Rating (Amperes)

UL 1977	22
CSA (30°C Rise)	16

Voltage Rating

UL 1977 (AC/DC)	600
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Dielectric Withstanding Voltage (AC)

2,200

Contact Resistance (average)

3 Milliohms

MATERIALS

Shell PC

Latch PC

Flammability UL 94 V-0

Weatherability UL764C / 12 mm, F1

Contacts

Socket Body Copper Alloy, 200 μ inch Sn over Ni

Socket Contact Copper Alloy, 30 μ inch Au over Ni

Pin Copper Alloy, 30 μ inch Au over Ni

MECHANICAL

Environmental Seal

IEC	IP 68
UL	50E

Wire Size

AWG	24 to 12
(mm ²)	0.5 to 2.5

Sealing Options Sealing Gland

Operating Temperature

(°C)	-20 to 105
(°F)	-4 to 221

Mating Cycles (no load) 500

Contact Retention Force

(lbf)	10
(N)	44

Mating Force (nominal)

(lbf)	5
(N)	22

Touch Safe (UL 1977 Sec 10.2) Pass

Latch Strength (nominal)

(lbf)	24
(N)	107

NOTE: Sn = tin Ni = nickel Au = Gold

5 Pole Mini PL SPEC Pak®

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UL 1977	23
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Environmental Seal

IEC	IP 68
UL	50E

Wire Size

AWG	24 to 12
(mm ²)	0.5 to 2.5

Sealing Options Sealing Gland

Operating Temperature

(°C)	-20 to 105
(°F)	-4 to 221

Mating Cycles (no load) 500

Contact Retention Force

(lbf)	10
(N)	44

Mating Force (nominal)

(lbf)	3.5
(N)	16

Touch Safe (UL 1977 Sec 10.2) Pass

Latch Strength (nominal)

(lbf)	34
(N)	155

NOTE: Sn = tin Ni = nickel Au = Gold

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.

Your Best Connection™

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All Data Subject to Change Without Notice

AG-EBIKE REV 0

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