GBA

CONTACT SPRINGS

Descriptions

Spring contacts, or battery contacts, are electro-mechanical components that provide flexible, low-resistance electrical connections. Their elasticity maintains consistent pressure, ensuring reliable conductivity despite vibration, tolerances, or repeated use.

Available in various geometries—such as bars, clips, and star patterns—spring contacts are optimized for specific force and contact requirements. Materials like gold-plated beryllium copper and phosphor bronze offer excellent conductivity, strength, and corrosion resistance.

Compact yet critical, spring contacts form the essential link between a device's mechanical structure and its electrical performance.

APPLICATIONS

- PCB grounding (handheld devices, telecommunication equipment)
- Optics
- Automotive on-board controller PCB grounding
- Laptop internal mechanical parts
- EMI shield

DESIGN CONSIDERATIONS

- Product assembly method. (soldering, screw, clip, etc.)
- Product operation height and part height. (involving material elasticity and usage requirements, focusing on evaluating failure risk)
- Work environment and corrosion resistance. (Selection of material and plating)
- SMT automation requirements. (packaging selection and T&R design)
- Working current and voltage. (considering the cross-section area and material)
- Product structural space. (product structure selection)
- Product reliability testing. (such as compression frequency and compression reflection requirements)
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CHARACTERISTICS OF BERYLLIUM COPPER

- Beryllium copper is an alloy with high conductivity.
- Due to its high heat transfer and conductivity, beryllium copper can be used in applications such as heat dissipation and signal transmission.
- Compared to traditional alloys, beryllium copper has lower density and higher strength.
- The excellent processability of beryllium copper makes it suitable for various types of products.

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CONTACT SPRINGS

SMD Contact Spring Type

- Exceptional reliability and long service life, capable of withstanding high temperatures and humid environments.
- Suitable for automated production, greatly reducing assembly costs.
- Low electrical impedance, providing effective EMI and ESD shielding.
- Superior elasticity allows design flexibility for lightweight, compact, or intricate structures.

Contact springs are extensively used across various industries, making fatigue strength testing an essential quality assurance step post-production. Manual testing, however, is labor-intensive, time-consuming, and subject to operator fatigue during prolonged use, which can compromise test accuracy and increase the risk of injury from broken fragments.

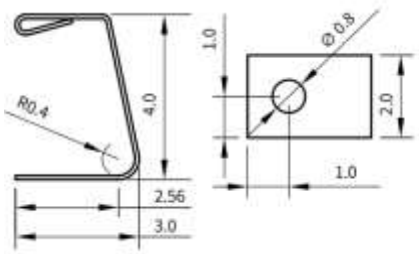
To address these challenges, the load displacement testing instrument offers an automated, efficient solution. It eliminates the need for manual operation and enables real-time monitoring of compression resistance under varying conditions. Equipped with a servo motor transmission system, this tester delivers highly precise measurements of both load and displacement.

FORCE/DISPLACEMENT TESTER SPECIFICATION

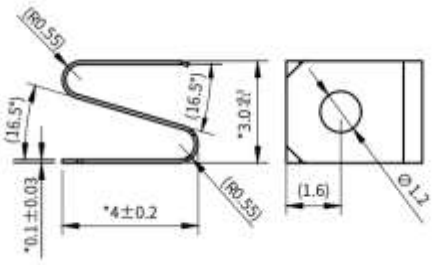
Feature	Specification
Maximum Load	10kg
Minimum Resolution	0.01g
Maximum Measurement Height	100mm
Fine Tune Distance	0.01mm/0.001mm
Speed Range	0-100mm/min
Transmission Mechanism	Ballscrew
Motor	Servomotor
Dimension	300 W x270 D x500(H)mm
Weight	31kg Machine Only
Voltage	AC110V or 220V

GROUNDING CONTACT SERIES

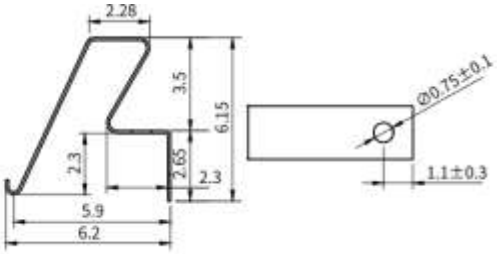
Part #	Material	Plating	Application
AC-0001	BeCu	Tin	Grounding, Energy Carrying



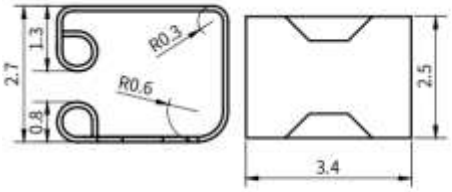
Part #	Material	Plating	Application
AC-0002	BeCu	Au-Ni	Grounding, Energy Carrying



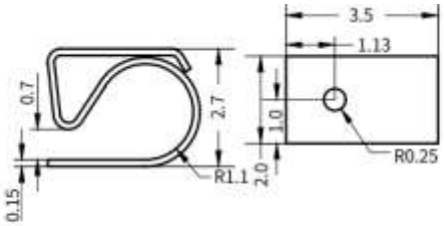
Part #	Material	Plating	Application
AC-0003	BeCu	Tin	Grounding, Energy Carrying



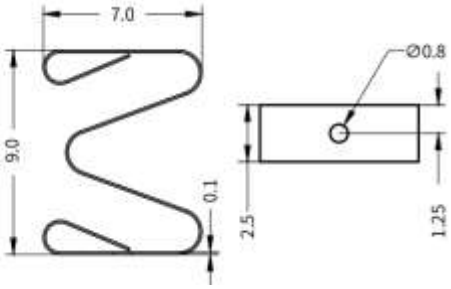
Part #	Material	Plating	Application
AC-0004	BeCu	Au-Ni	Grounding, Energy Carrying



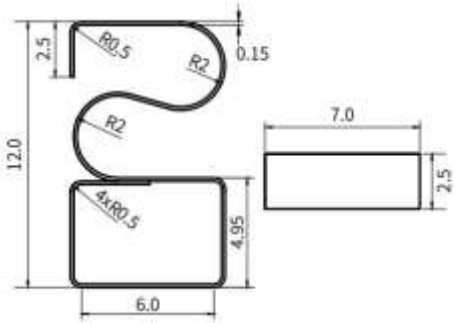
Part #	Material	Plating	Application
AC-0005	BeCu	Au-Ni	Grounding, Energy Carrying



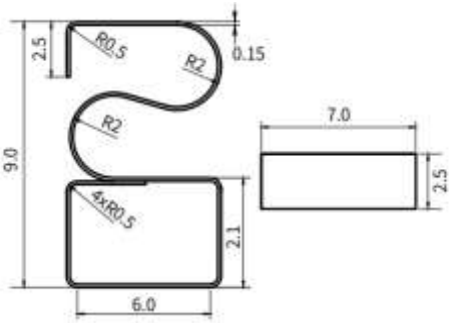
Part #	Material	Plating	Application
AC-0006	BeCu	Au-Ni	Grounding, Energy Carrying



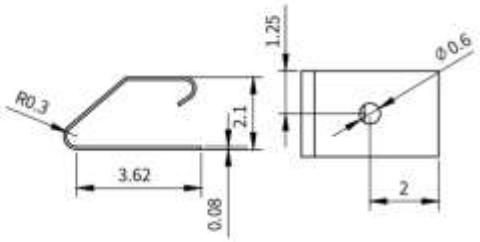
Part #	Material	Plating	Application
AC-0007	BeCu	Au-Ni	Grounding, Energy Carrying



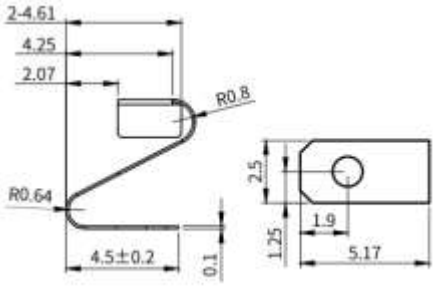
Part #	Material	Plating	Application
AC-0008	BeCu	Au-Ni	Grounding, Energy Carrying



Part #	Material	Plating	Application
AC-0009	BeCu	Au-Ni	Grounding, Energy Carrying

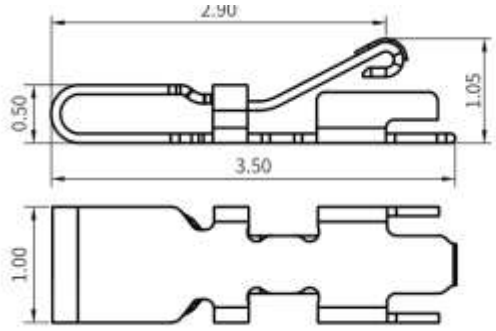


Part #	Material	Plating	Application
AC-0001	BeCu	Au-Ni	Grounding, Energy Carrying

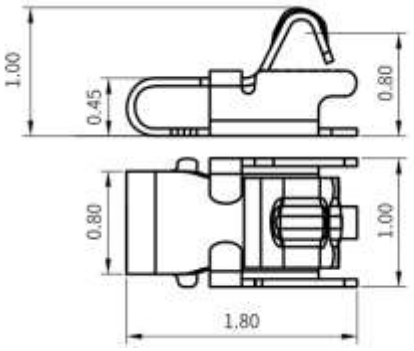


HIGH RELIABILITY ALL-PURPOSE CONTACT SPRING

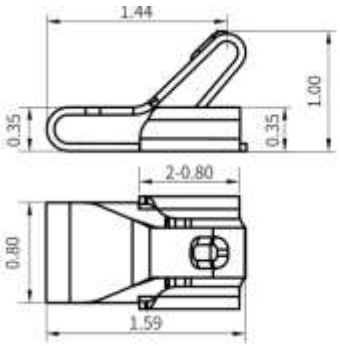
Part #	Material	Plating	Application
AC-0013	Stainless Steel	Au-Ni	0.65 – 0.90



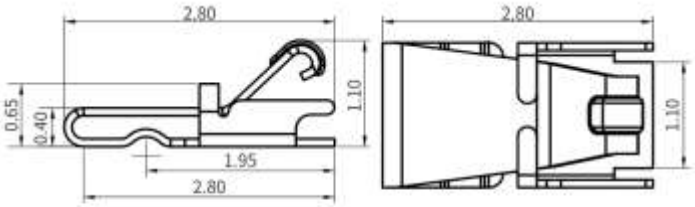
Part #	Material	Plating	Application
AC-0014	Stainless Steel	Au-Ni	0.45 – 0.70



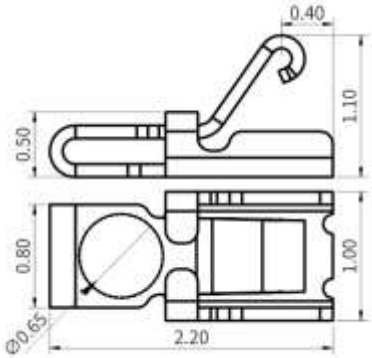
Part #	Material	Plating	Application
AC-0015	Stainless Steel	Au-Ni	1.0 – 1.60



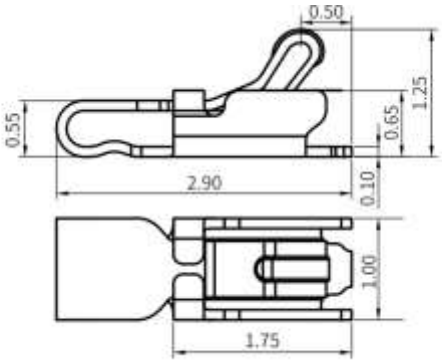
Part #	Material	Plating	Application
AC-0016	Stainless Steel	Au-Ni	1.6 – 2.3



Part #	Material	Plating	Application
AC-0017	Stainless Steel	Au-Ni	2.2 – 3.0

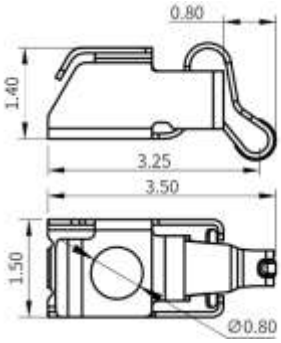


Part #	Material	Plating	Application
AC-0001	Stainless Steel	Au-Ni	2.3 – 3.5

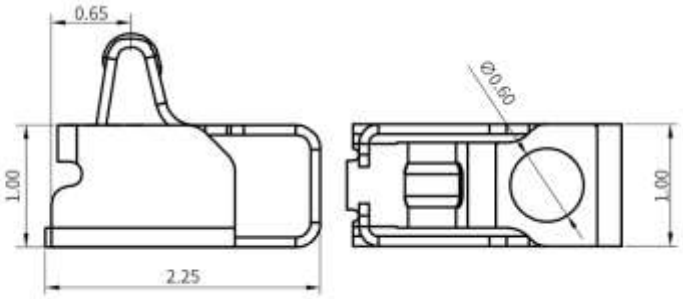


HIGH RELIABILITY ALL-PURPOSE CONTACT SPRING

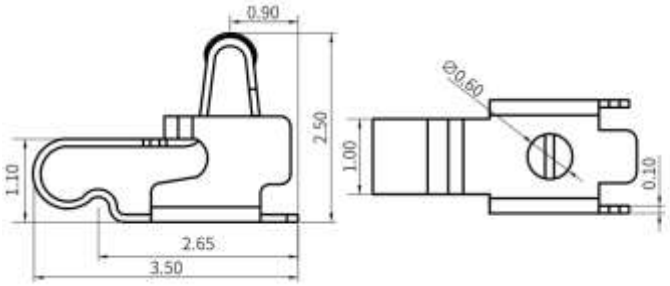
Part #	Material	Plating	Application
AC-0019	Stainless Steel	Au-Ni	0.8 – 1.2



Part #	Material	Plating	Application
AC-0020	Stainless Steel	Au-Ni	1.4 – 1.7



Part #	Material	Plating	Application
AC-0021	BeCu	Au-Ni	0.l95 – 1.05



Part #	Material	Plating	Application
AC-0022	BeCu	Au-Ni	2.3 – 3.5