



IEC 61032 Test Probes for Verification and Testing The Protection Against Access to Hazardous Parts

1. Executive Summary

The **IEC 61032 Test Probes** are high-precision safety testing instruments manufactured by **KingPo**. Serving as international reference tools, they evaluate the adequacy of enclosures in electrical equipment to prevent unintentional contact with hazardous live or moving parts. These probes are essential for safety laboratories and manufacturing quality departments worldwide to ensure compliance for household appliances, medical devices, and industrial control equipment.

2. Main Test Probes Overview

The full series provides specialized geometries to simulate various access scenarios:

Figure	Probe Type	Key Dimensions	Primary Application	Test Force
Figure	Test Probe A	Ø50 mm ball, baffle	Basic IP2X protection	50 N

Website: www.kingpo.hk

Tel: 0086 769 81627526

Address: No.9, University Rd., Songshan Lake, Dongguan, Guangdong, China

E-mail: sales@kingpo.hk

Fax: 0086 769 89032367



Figure	Probe Type	Key Dimensions	Primary Application	Test Force
1	(Sphere)	Ø45 mm	testing	
Figure 2	Test Probe B (Jointed)	Finger Ø12 × 80 mm, baffle Ø50 mm	General access (Most widely used)	10 N
Figure 3	Test Probe C	Ø2.5 mm × 100 mm	IP3X fine probe testing	3 N
Figure 4	Test Probe D	Ø1.0 mm × 100 mm	IP4X fine probe testing	1 N
Figure 7	Test Probe 11 (Rigid)	Ø12 × 80 mm rigid	Mechanical strength/durability	50 N
Fig 12/13	Child Probes 18 & 19	Ø8.6 mm & Ø5.6 mm	Child safety (toys & appliances)	10 N

3. Specialized Appliance Test Probes

KingPo offers modified versions of the standard Test Probe B to meet specific product standards:

IEC 60335-2-14 Test Probe B

- **Standard Compliance:** Designed for **IEC 60335-2-14**, EN 60335-2-14, and GB 4706.30.
- **Unique Geometry:** Features a circular stop face (dam-board) with a **125 mm diameter**.
- **Finger Specifications:** Jointed finger length is **100 mm** (segmented as 30/30/40 mm).

IEC 60335-2-64 Test Probe B

- **Standard Compliance:** Specifically for **IEC 60335-2-64** and related safety standards.
- **Unique Geometry:** Features a smaller circular stop face with a **56 mm diameter**.
- **Finger Specifications:** Extended jointed finger length of **120 mm** (segmented as 30/30/60 mm).

4. Professional Construction & Technical Precision

- **Premium Materials:** Contact tips are precision-machined from **high-grade stainless steel or hardened tool steel** to ensure dimensional stability.
- **Insulated Handles:** Ergonomic **Delrin (nylon)** handles provide excellent electrical insulation and wear resistance.
- **Mechanical Accuracy:** Jointed models replicate human finger articulation using low-friction joints.
- **Traceability:** Probes undergo 100% dimensional inspection and individual marking for consistent performance in laboratory environments.

5. Testing Principle & Methodology

Website: www.kingpo.hk

Tel: 0086 769 81627526

Address: No.9, University Rd., Songshan Lake, Dongguan, Guangdong, China

E-mail: sales@kingpo.hk

Fax: 0086 769 89032367



Kingpo Technology Development Limited

The test involves applying the specified probe to all accessible openings of an enclosure with a programmed force and direction. The probe is gradually advanced to determine if it can contact hazardous components or penetrate beyond permitted distances. This process provides an objective assessment of both **basic protection** (against deliberate contact) and **supplementary protection** (against accidental contact), forming the basis for IP Code verification.

6. Industrial Applications & Lab Scenarios

- **Household Appliances:** Safety verification for washing machines, refrigerators, and microwaves.
 - **Power Tool Production:** Compliance testing under **IEC 60745** for drills, grinders, and saws.
 - **Medical Equipment:** Patient protection assessment according to **IEC 60601**.
 - **Certification Bodies:** Essential for third-party testing and **CB Scheme** documentation.
-

Operational Tip: To achieve reliable electrical detection when testing energized equipment, connect a **continuity tester** or low-voltage signal lamp to the integrated **banana jack** at the handle tail.

Website: www.kingpo.hk

Tel: 0086 769 81627526

Address: No.9, University Rd., Songshan Lake, Dongguan, Guangdong, China

E-mail: sales@kingpo.hk

Fax: 0086 769 89032367