



Tunkia Co.,Ltd.

Address: No. 16 Panpan Road, Changsha, Hunan, China

Tel: +86-731-84930888 (Business Inquiry)

Tel: +86-731-84930999 (After-sale Service)

Email: global@tunkia.com

Web: www.tunkia.com

Postal Code: 410100

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Scan the QR code to visit Tunkia website.

Specifications are subject to change without prior notice as products are continuously updated. Please refer to the actual contract for the final technical specifications.

TE1000 (EU)

EV Charger Energy Standard



Lightweight



Safe



Reliable



Precision



COMPLETE CALIBRATION AND TESTING SOLUTION FOR EV CHARGERS



On-site Testing



Mobile Solution



Laboratory Evaluation



Traceable Calibration

> Supports EV charger MMQ (Minimum Measured Quantity) test, compliant with OIML G22 (Edition 2022(E)) requirements

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01 Product Overview

TE1000 EV Charger Energy Standard EV Charging Standard, Leading Innovation

Extremely Lightweight	High Accuracy	Improved Efficiency
1.5 kg	Class 0.05	5×

An ultra-lightweight and reliable energy standard for EV chargers, providing a new solution for charging energy measurement and leading the development of charger verification technology.

Application Examples



- > Ultra-lightweight, portable, and easy to operate
- > EVs as load, eco-friendly and low-carbon
- > Verification efficiency improved by up to 5×
- > Outstanding cost-effectiveness

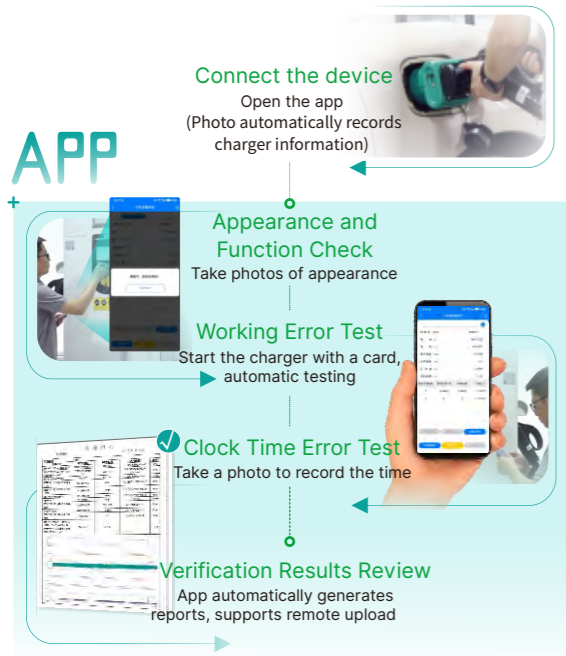
VS



- > Heavy load, difficult to transport on-site
- > Energy waste
- > Complicated wiring, low efficiency, high labor cost
- > High equipment cost

02 Application Highly accurate and compact — versatile for all EV charger testing scenarios.

Test Steps



Use Cases

On-site Verification

Use with EVs to efficiently perform on-site charger verification

Remote Measurement

Maintenance staff regularly use standard device to complete error tests during vehicle charging, with encrypted data automatically uploaded for fully remote measurement.

Law Enforcement Spot Check

Handle public complaints with on-site inspections to resolve metering disputes.

Use EVs as load for testing, reflecting real user charging scenarios and ensuring fairness and impartiality.

Maintenance Inspection

Support maintenance testing of chargers, ensuring operational meters perform accurately.

Quality Control

Conduct metrological performance tests during the EV charger development process.

03 Ease of Use Designed for simplicity and efficiency, easing the workload of inspection staff.

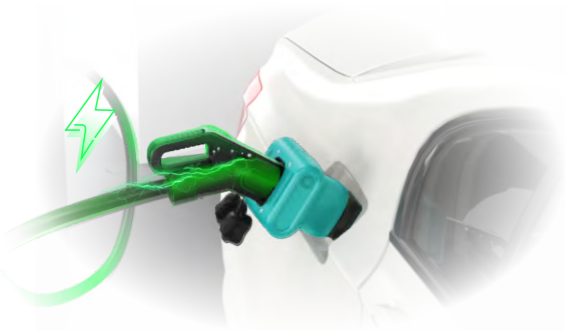


Multi-terminal Connectivity & Remote Control

- > Operate easily with a mobile app — no learning curve needed
- > Supports encryption of standard electrical energy and test results
- > Connect via multiple devices — mobile, PC, and more

Real-time Verification, Smart and Efficient

- > Perform energy measurement during EV charging
- > Selectable cumulative energy — automatic stop when target reached
- > Multi-gun support — one phone controls multiple devices
- > Powered directly from the charging gun — no extra power needed
- > External LED indicator for clear operational status



04 Safe and Reliable Designed to handle all complex and harsh on-site conditions, with comprehensive safety and reliability features to ensure flawless on-site testing.

Designed for Safety

- > Over-temperature alarm — device automatically cuts power in case of overheating
- > Dual insulation in high-voltage circuits ensures user safety
- > Non-intrusive design — does not affect normal charger-vehicle interaction
- > Anti-interference design withstands transient surges during charging
- > Equipped with locking hooks for anti-theft protection

Designed for Reliability

- > Powered directly from the charging gun; supports offline operation
- > High durability — Continuous 7×24-hour operation
- > IP54 — dustproof, waterproof, and splash-resistant
- > Impact and vibration resistant — functions normally after minor bumps
- > Temperature resistant — industrial-grade components ensure normal operation from -30°C to 55°C, even under outdoor heat, solar radiation, and 300A high-current tests, maintaining accurate measurement

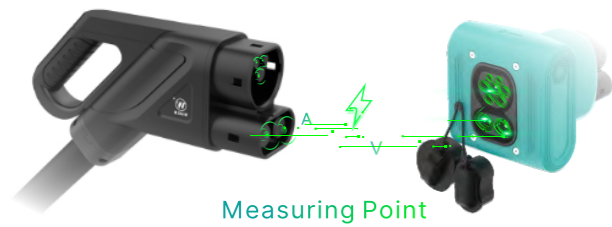
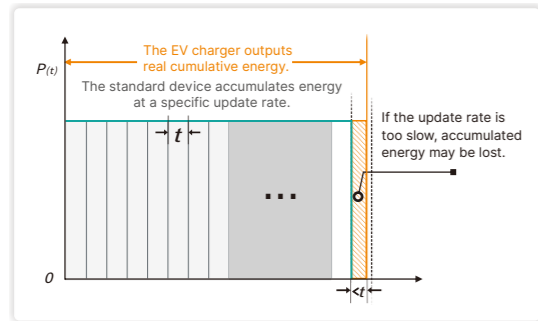
Note: Test data was obtained at Tunkia and may not represent all scenarios.



Structure and Appearance (DC-EU)



05 Key Features



Dynamic Accuracy

- > **High Accuracy:** up to Class 0.05
- > **Dynamic Measurement:** millisecond-level energy update rate, meeting dynamic testing requirements under fluctuating EV charging loads
- > Accumulative energy displays up to 0.000 001 kWh; precise measurement maintained even at 0.1 kWh
- > Supports EV charger MMQ (Minimum Measured Quantity) test, compliant with OIML G22 (Edition 2022(E)) requirements

Accurate Measurement

Test point close to the charging gun head, reducing the impact of internal line voltage drop of the equipment and ensuring energy measurement accuracy

Bidirectional Measurement

- > Supports reverse energy measurement in V2G scenarios, meeting metering needs when EVs charge or discharge to the V2G charger
- > Provides three metering modes: forward energy, reverse energy, and total energy

Rich Communication Interfaces, Strong Compatibility

- > Supports Bluetooth connection with temperature & humidity meters and precision real-time clocks to meet standard-setting requirements
- > Built-in Bluetooth, Wi-Fi, 4G, and satellite time synchronization; multiple communication methods for seamless connectivity
- > Strong compatibility with chargers and vehicles; verification process unaffected by proprietary protocols

06 Detailed Technical Specifications

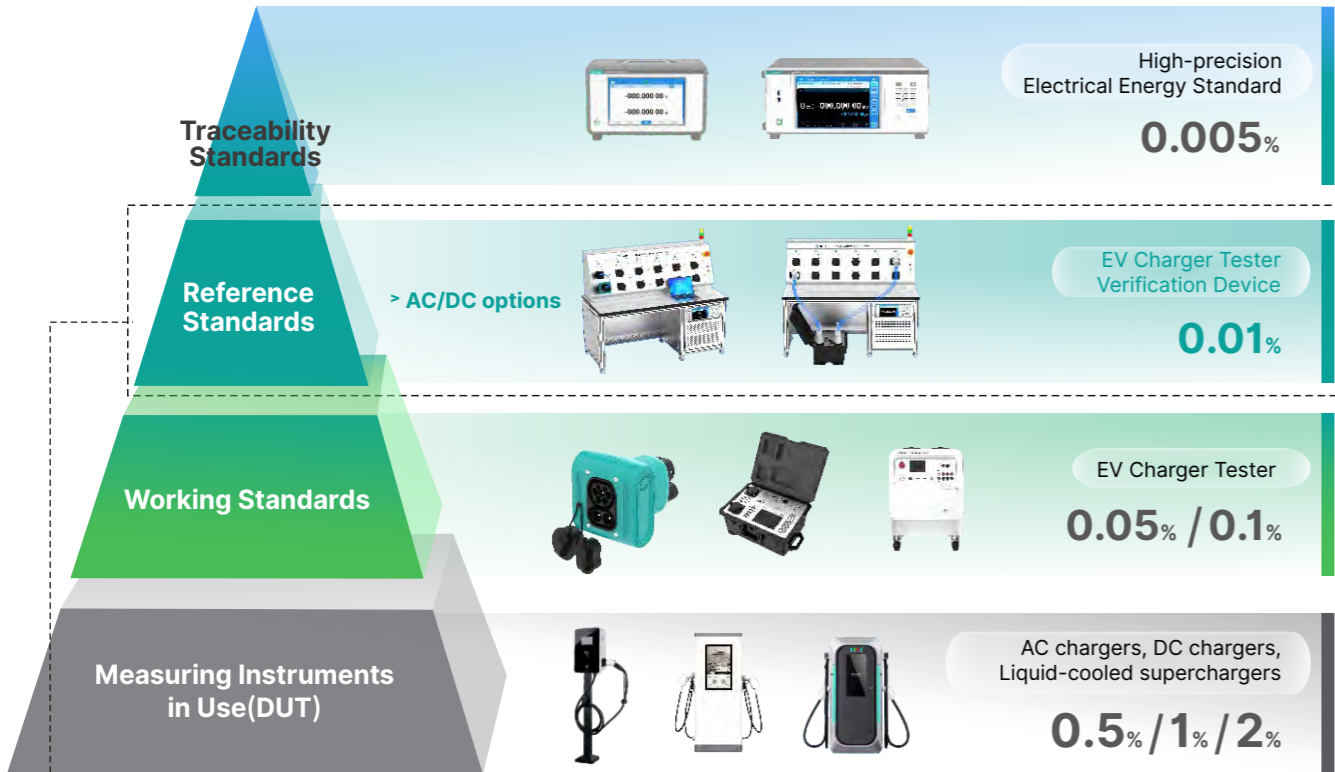
Name	DC-CCS 2	AC-Type 2
Picture		
Measurement Range	1200 V/400 A	Three-Phase 300 V/80 A (each phase)
Accuracy	Class 0.05 / 0.1 (optional) Supports forward and reverse energy measurement	
Dimension (L*W*H)	236.7 mm*162 mm *130 mm	200 mm*152 mm *130 mm
Weight	≈1.5 kg	
External Interface	Type-C (data transfer & charging)	
Wireless Communication	4G, Wi-Fi, Bluetooth	
Operating Environment	-30°C ~ 55°C, 0 ~ 100% RH	

Standard Accessories		
Picture	Name	Specification
	TE1000	Main device, available in DC and AC versions
	Verification App (Mobile)	Easy device operation via mobile app
	Portable Shoulder Bag	Convenient for carrying a single device

Optional Accessories		
Picture	Name	Specification
	Portable Case	For carrying multiple devices and accessories
	Auxiliary Test Cables	Electrical pulse, optical pulse, and other cables for pulse testing and calibration
	TP2000 Bluetooth Temperature & Humidity Meter	For environmental condition verification
	TH5000 Precision Real-Time Clock	For time error testing

Note: The pictures are for reference only, please refer to the actual order.

07 Metrology Assurance System



TE1500 EV Charger On-site Tester Verification Device

- Multi-position test bench, each equipped with a standard charging gun socket
- Easy plug-in to start verification
- Enables batch traceability of EV charger energy measurement standards

TE1000 EV Charger Energy Standard

- DC: 1200 V / 300 A AC: 300 V / 80A
- Class 0.01 energy accuracy
- 3 or 6 positions available
- Dedicated test leads
- Power supply from charging gun head supported
- Clock verification supported

Conventional EV Charger Testers

Also supports verification of conventional EV charger testers

08 EV Charger Testing Solution

With the rapid growth of new energy and electric vehicle industries, the demand for EV charger testing continues to rise. Tunkia has developed a series of advanced original instruments, forming a comprehensive testing solution that covers on-site metrology verification, acceptance and maintenance, on-board inspection, full performance evaluation, traceability calibration, and supercharging. In terms of product completeness, technical performance, market share, and customer reputation, Tunkia remains at the forefront internationally.



On-Site Solutions

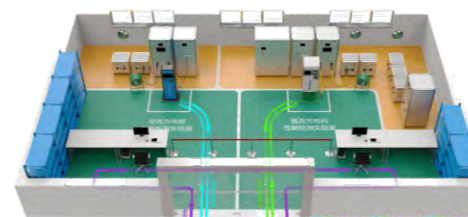


Metrology Verification: Efficient verification, using EVs/resistive loads as load
Acceptance & Maintenance: Compatible with verification, on-site acceptance, and periodic maintenance



On-Board Solutions

Comprehensive Test Vehicles:
 High efficiency, full capability



Laboratory Solutions

Type Evaluation: 1500V, 800A, 120kW x N



Traceability Calibration

Tester Traceability:
 Class 0.01 electrical energy standard device

A complete product portfolio for EV charger verification and testing, safeguarding the high-quality development of the charging industry.

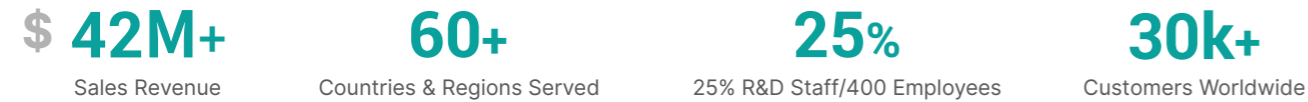
COMPANY PROFILE



Tunkia Co., Ltd. is a leading enterprise in the field of electromagnetic measurement instruments. The company traces its roots back to 1998 as Hunan Tongren Electronics Co., Ltd., and was officially established as Tunkia in 2006. After nearly three decades of dedicated development, Tunkia has become one of the few companies worldwide capable of covering both electrical measurement and magnetic measurement systems.

Tunkia has built a complete technology chain spanning from fundamental research to system design, from signal chain processing to digital algorithms, and from mechanical design to testing and evaluation. It has also established a full traceability system, extending from working standards to quantum references. Based on this foundation, Tunkia has developed three major product lines: scientific instruments, general instruments, and comprehensive testing equipment, which are widely applied in metrology, power grids, new energy, aerospace, automotive, semiconductors, communications, and electronics.

Committed to becoming a world-class scientific instrument manufacturer, Tunkia continues to tackle industry challenges and bottlenecks. Looking ahead, the company will remain focused on precision electromagnetic measurement, aiming for fully independent and controllable high-end instruments and comprehensive measurement capabilities across the entire industry chain. At the same time, Tunkia will gradually expand into interdisciplinary fields such as mechanics, acoustics, thermology, and life sciences, striving to build a globally influential scientific instrument brand that empowers the advancement of intelligent manufacturing worldwide.



Main Business

<p>Scientific Instruments</p> <p>Addressing high-precision traceability and critical bottlenecks</p>  <p>60% of Business</p>	<p>General Instruments</p> <p>Providing precise data to strengthen industrial quality</p>  <p>20% of Business</p>	<p>Intelligent Equipment</p> <p>Empowering innovation and high-quality development in advanced manufacturing</p>  <p>20% of Business</p>
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Historical Milestones

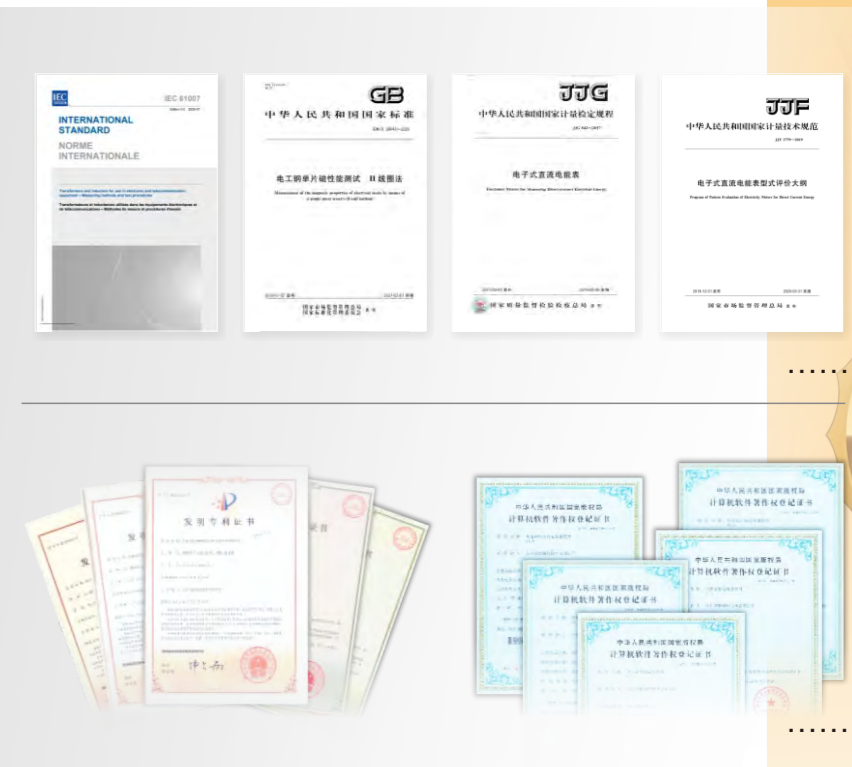
<p>1998</p> <p>Established Hunan Tongren Electronics Co., Ltd.</p> <p>Introduced AC sampling devices, transmitters, AC/DC electrical testing systems, as well as calibration devices for multimeters and clamp meters.</p>	<p>2006</p> <p>Established TUNKIA Co., Ltd. in Changsha.</p>	<p>2012</p> <p>Released Class 0.01 3PH standard energy meter and DC standard energy meter.</p>	<p>2014</p> <p>Released the electrical vehicle charging station tester.</p>	<p>2017</p> <p>Released TD7200 Calibrator for Electrosurgical Analyzers</p> <p>Tunkia officially enters the field of medical metrology and calibration.</p>
<p>2021</p> <p>Released China's first fully self-developed automated testing system for electrical steel magnetic properties.</p> <p>Applied by leading steelmakers such as Baosteel and Wusteel.</p>	<p>2022</p> <p>Recognized as a National "Specialized and Sophisticated Little Giant" enterprise.</p> <p>Among the first in the field of electromagnetic metrology instruments to receive this honor.</p>	<p>2023</p> <p>Released the China-version ultra-high-precision multifunction calibrator, featuring breakthrough.</p> <p>DCV measurement accuracy 3.5 ppm+4 μV/V.</p>	<p>2024</p> <p>Released Integrated & Precision Measurement Architecture (IPMA) for precision measurement.</p> <p>Meeting measurement needs from 0.1 ppm to 1%.</p>	<p>2025</p> <p>Reorganized as a joint-stock company, retaining the name Tunkia Co., Ltd.</p>

HONOR CERTIFICATION

- National-level Specialized, Sophisticated, New and Distinctive "Little Giant"
- National High-tech Enterprise
- Technology Innovation Center of State Market Regulation Management System



<p>4 International Standards</p>	+	<p>51 National Standard / Metrological Calibration Specification</p>	+	<p>91 Drafting and Revision of Standards and Regulations</p>
<p>102 (including 2 international patents) Total patent applications</p>				



Standard Type	Standard Number	Description
International Standard	IEC 61007	Transformers and inductors for use in electronic and telecommunication equipment - Measuring methods and test procedures
International Standard	IEC 63300	Test methods for electrical and magnetic properties of magnetic powder cores
International Standard	IEEE P2960	Guide for Testing Equipment for Direct Current Electrical Energy Meters
National Standard	GB/T 19345.1-2017	Amorphous and nanocrystalline alloys-Part 1: Fe-based amorphous soft magnetic alloy strips
National Standard	GB/T 19346.3-2021	Methods of measurement of amorphous and nanocrystalline alloys-Part 3: AC magnetic properties of Fe-based amorphous strip using a single sheet specimen
National Standard	GB/T 19289-2019	Methods of measurement of resistivity, density and stacking factor of electrical steel strip and sheet
National Standard	GB/T 10129-2019	Methods of measurement of magnetic properties of electrical steel strip and sheet at medium frequencies
National Standard	GB/T 39042-2020	Measurement of the magnetic properties of electrical steels by means of a single sheet tester-H-coil method
National Standard	GB/T 3655-2022	Methods of measurement of the magnetic properties of electrical steel strip and sheet by means of an Epstein frame