TK4830Z Portable Tester for EV DC Charging Station

1. Summary

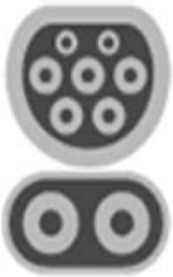
TK4830 is an Electric vehicle DC charging station testing equipment. The device's DC power measurement accuracy level reaches Class 0.05. It can complete the working error and clock time error test of DC charging Station.

The device supports European standard CCS2 DC charging interface and Japanese standard CHAdeMO DC charging interface. The device can use new energy vehicles as loads or use resistive loads to test. Combined with wide dynamic range measurement technology, ms-level high-speed refresh of electric energy and other technologies, accurate measurement of accumulated electric energy during the entire charging process is achieved. Compared with the traditional steady-state measurement of preset calibration points, it more truly reflects the performance of charging station.

2. Reference Standards

- IEC 62196-3
- CHAdeMO
- JJG 1149–2022 ***Calibration Regulations for Off-board Chargers for Electric Vehicles***

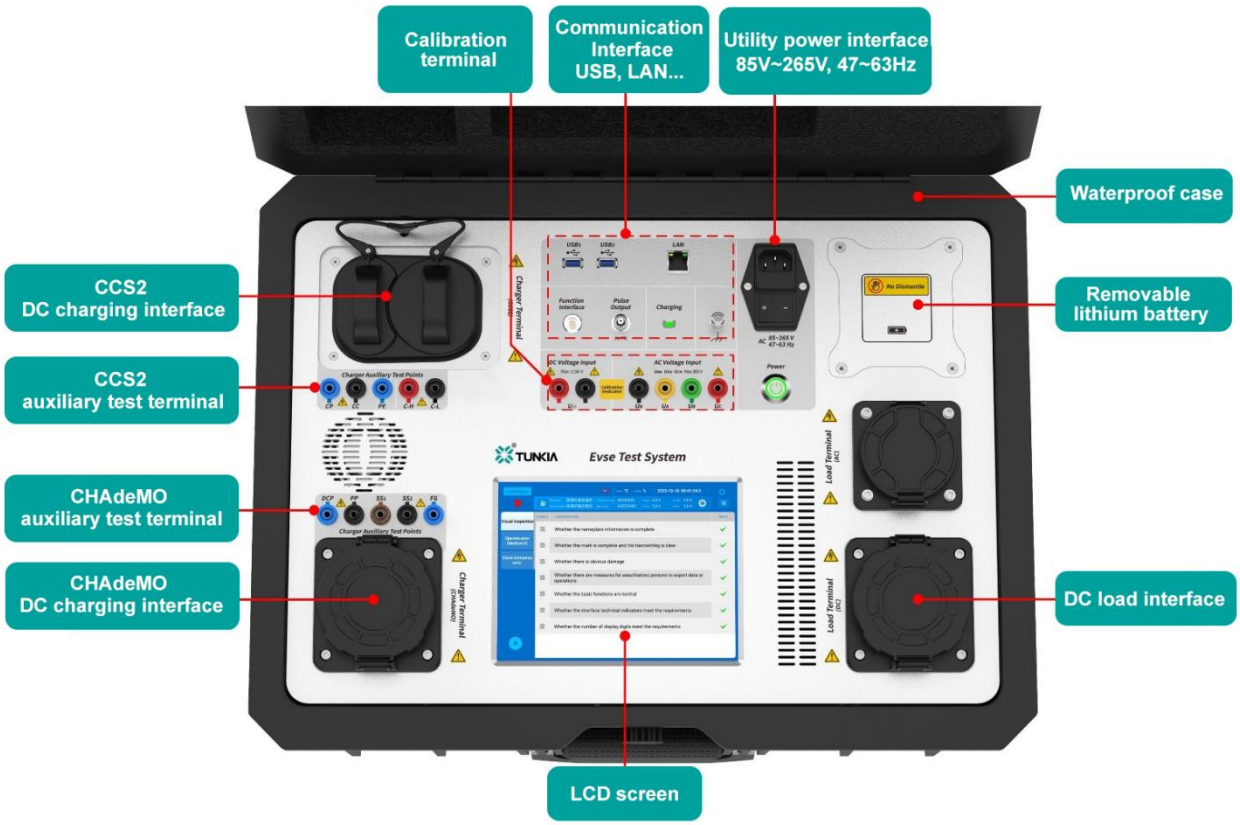
3. Charging Interfaces



European Standard CCS2

Japanese Standard CHAdeMO

4. Instrument Appearance



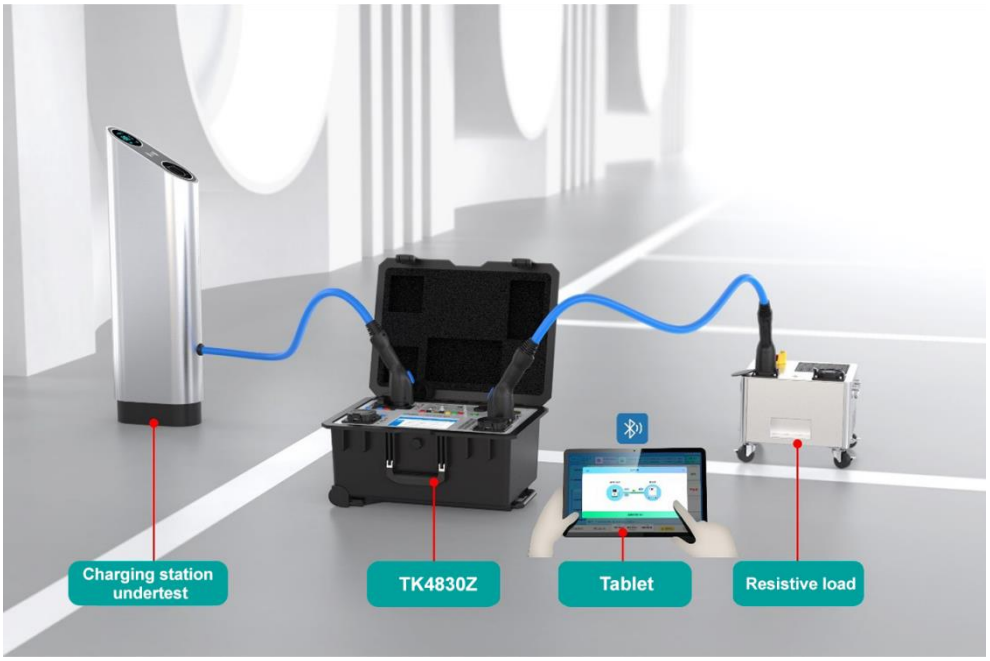
5. Features

- **DC Measurement:** DC voltage 100~1000V, DC current 1A~250A, DC power/electric energy class 0.05.
- **Supports Multiple Loads:** new energy vehicles can be used as loads to measure the accumulated electric energy throughout the charging process, and traditional resistive loads can also be used for testing.
- **Flexible Load Matching:** DC load 20kW and 60kW are optional, and the load power can be switched by program control.
- **Load Cascading:** DC loads can be cascaded, up to four 60kW loads can be cascaded, with a maximum power of 240kW.
- **Wide Dynamic Range Measurement:** Avoid measurement risks caused by load fluctuations during the dynamic metering process of electric vehicle charging.
- **Ms-Level Power Refresh Speed:** Reduce errors introduced by charging station and standard instruments in the process of asynchronous accumulation of power, and improve the measurement accuracy of accumulated power.
- **Error Calculation:** Supports pulse method and accumulated electric energy method for working error verification.
- **Clock:** Real-time clock display to complete the clock time error test of the charging pile.
- **Temperature Probe:** Equipped with a wired temperature probe, which can complete on-site temperature measurement.
- **Automated Operation:** It can be operated through the device's LCD screen for automated testing, or it can be operated and tested through another tablet.
- **Traceable Calibration:** with dedicated calibration terminals to facilitate instrument calibration.
- **Three Power Supply Modes:** Charging gun head takes power, built-in lithium battery power supply and mains power supply. When used on site, the charging gun head can be used to draw power, without the need to connect to the mains separately. The lithium battery is removable for easy air transport.

6. Verification Ability

- **Working Error:** The working error test can be completed in real time during the charging process through the pulse method or the accumulated electric energy method. It supports two methods of testing using new energy vehicles as loads or programmable resistive loads.

Test Method 1: Test with new energy vehicles as load



Test Method 2: Test with programmable resistive load as load

- **Clock verification:** It has time verification function, real-time clock display, and clock time error test of the charger.

7. Specifications

DC Measurement Function			
DC Voltage	Measuring Range		200 V～1000 V
	Measurement Uncertainty (k=2）		0.025%*RD
DC Current	Measuring Range		1 A～250 A
	Measurement Uncertainty（k=2）	5 A ≤ I ≤ 250 A	0.025%*RD
		1 A ≤ I＜5 A	0.05%*RD
Power/Energy	Measurement Uncertainty（k=2）	5 A ≤ I ≤ 250 A	0.05%*RD
		1 A ≤ I＜5 A	0.1%*RD
Clock Function			
Clock	Timing mode		GPS Clock timing
	Time Error		≤1s
Temperature Function			
Temperature	Measurement Range		-30℃～60℃
	Maximum Permissible Error		0.5℃
General Specifications			
Power Supply Mode	（1）Utility power: support 85V~265V，47Hz~63Hz； （2）Charging gun head takes power （3）Removable built-in lithium battery		
Communication Interface	USB、LAN、Bluetooth or WiFi		
Temperature Performance	Operating temperature: -25°C~55°C; Storage temperature: -30°C~70°C		
Humidity Performance	Operating humidity: < 80% @ 30°C, < 70% @ 40°C. < 40% @ 50°C Storage humidity: <80% R·H, non-condensing		

8. Optional Accessories List

S/N	Pic	Name	Specifications	Note
1		TK4730-20kW AC and DC Integrated Adjustable Resistive Load	• Rated power: 20 kW @750V/500V • Voltage 0～750 V, current 0～40 A • Not cascadable • Dimensions: 490 mm (width) × 200 mm (depth) × 453 mm (height) • Weight: about 22kg	**Optional**
2		TK4710-60kW-1000V Adjustable Resistance Load	• Rated power: **60 kW** @1000V/750V/500VVoltage 0～1000 V, current 0～120 A • Can be cascaded, supports up to 4 load cascades, maximum power 240kW • Dimensions: 610 mm (width) × 550 mm (depth) × 435 mm (height) • Weight: about 66 kg	**Optional**