

TD3710 Energy Meter Constant Magnetic Field Test Device

**TD3710-E Electromagnet version****TD3710-P Permanent magnet version**

* Reference only. Configuration and details may vary depending on the application scenario..

1. Summary

TD3710 is a device specially used to test the influence of constant magnetic field on energy meter, which consists of constant magnetic field generating device, DUT test bench, energy meter verification device, calibration interface platform, computer and automatic test software, etc.

The device can be in the form of electromagnet or permanent magnet, which can generate constant magnetic field quantitatively, and cooperate with energy meter verification device to complete the influence test of constant magnetic field on electric energy meter error.

2. Features

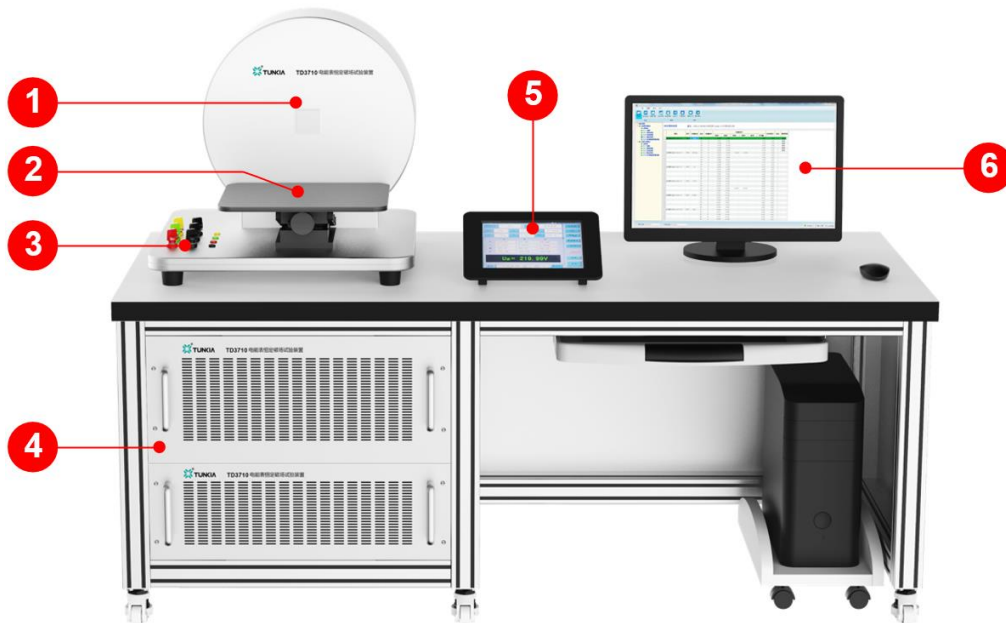
- Electromagnet (optional): Excited by a precision DC source, a programmable constant magnetic field of 2 mT to 300 mT is generated at the center of the magnetic field generator. The magnetic field distribution generated by the magnetic field generator is similar to the magnetic field of a 50 mm × 50 mm permanent magnet.
- Permanent magnet (optional): Equipped with a 50 mm × 50 mm permanent magnet, which can generate 200 mT and 300 mT constant magnetic fields respectively, and equipped with a special

magnetic shielding box for placing the permanent magnet after the test.

- The system has a built-in high-precision Tesla meter as a magnetic field measurement standard, with a measurement uncertainty of up to 2.0%.
- The six sides of the energy meter under test can be tested separately, and the electric energy error of the meter under test can be given.
- The system is equipped with computer testing software, which can complete the magnetic field influence test of the energy meter under different magnetic field sizes.
- The software has complete data management and backup functions, can output certificates and reports, and supports custom templates.

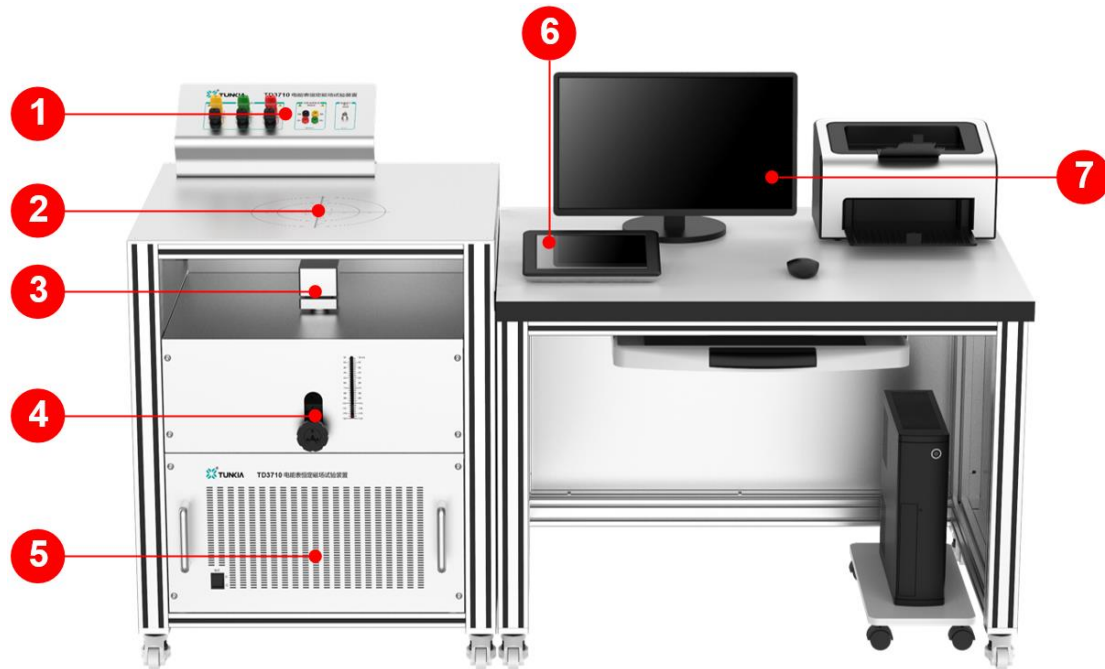
3. Appearance

☆ TD3710-E Electromagnet Version



S/N	Description
1	Excitation coil, which can generate a programmable constant magnetic field of 2 mT to 300 mT.
2	Energy meter tray, which places the energy meter close to the magnetic field source.
3	Three-phase energy meter voltage and current terminal blocks.
4	Constant magnetic field excitation power supply and three-phase energy standard device.
5	Measurement station, which can control the magnetic field and the output of the energy device, so that users can test manually.
6	Computer (optional) and energy meter automatic test software

☆ TD3710-P Permanent Magnetic Version



S/N	Description
1	Voltage and current terminals of three-phase energy meter.
2	Test bench, when conducting DC magnetic field test on energy meter, the DUT is placed in the center of the test bench.
3	Permanent magnet, applies DC magnetic field to the meter under test placed on the electric energy meter test bench.
4	Position knob, turning the knob to control the distance between the permanent magnet and the energy meter test bench.
5	Standard power source of three-phase energy meter calibration device
6	Measurement station, which can control the output of energy device, so that users can test manually.
7	Computer (optional) and energy meter automatic test software

4. Specification

Electromagnet-Magnetic Field Index	DC magnetic field range	2 mT ~ 300 mT
	Adjustment fineness	1 mT
	Magnetic field stability	0.05%/min
	Magnetic field measurement range	0 ~ 2 T
	Magnetic field measurement uncertainty (k=2)	2.0%
Permanent Magnet-Magnetic Field Index	Magnetic field size	200 mT, 300 mT
	Magnet size	50 mm × 50 mm × 50 mm
	Central magnetic field accuracy	±10%
Class 0.05 Three-phase Energy Meter Calibration Device	Voltage output range	30 V ~ 456 V
	Current output range	5 mA ~ 120 A
	Frequency range	45 Hz ~ 65 Hz
	Power source stability	0.02% / 2min
	Power/electrical energy accuracy	Class 0.05

5. General Specification

Power Supply	Single-phase AC (220 ± 22) V, (50 ± 2) Hz
Warm-up Time	30mins
Temperature Performance	Working temperature: 5°C~45°C; Storage temperature: -10°C~55°C
Humidity Performance	Working humidity: < 80% @ 30°C, < 70% @ 40°C, < 40% @ 50°C Storage humidity: (20%~80%) R·H, no condensation
Altitude	< 3000 m
Communication Interface	RS232
Device Size (including computer desk)	Electromagnet version: 1800 mm (W) × 800 mm (D) × 1400 mm (H) Permanent magnet version: 1700 mm (W) × 800 mm (D) × 1200 mm (H)

6. Ordering Information

TD3710-		Magnetic field generator	
		Code	Note
		<i>E</i>	Electromagnet
		<i>P</i>	Permanent magnet

Example: TD3710-E means the device is electromagnet version.