TD3700 Energy Meter Power Frequency Magnetic Field Test Device

Reference only.

1. Summary

TD3700 is a device specially designed to test the impact of AC magnetic field on energy meters. It consists of AC excitation current source, ring coil, DUT workbench, motor control system, three-phase energy meter testing device, computer and automatic test software etc. The device can generate a programmable and adjustable power frequency AC magnetic field of 0 to 1200 A/m. It can be used with the energy meter testing device to complete the power frequency magnetic field test and power frequency magnetic field interference test of the energy meter.

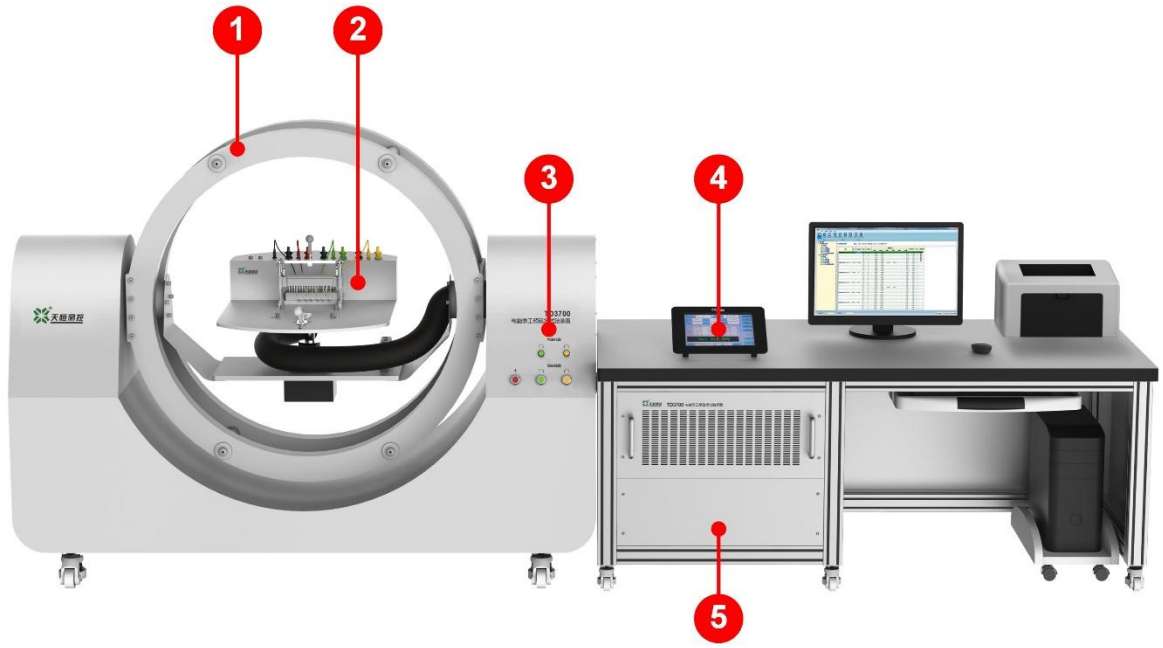
2. Features

- The ring coil is excited by a precision AC current source to generate a power frequency AC magnetic field with a magnetic field of 0 to 1200 A/m and a programmable and adjustable power phase of 0 to 360°.
- The ring coil and the platform of the meter under test are controlled by precision stepper motors and can rotate from 0 to 360°.
- The rotation angle is controlled by the computer to facilitate the application of AC magnetic field to all directions of the electric energy meter under test.
- The phase of the AC magnetic field and the working voltage of the electric energy meter under test can be adjusted arbitrarily within the range of 0~360°.

- The system is equipped with computer testing software, which can complete fully automatic and semi-automatic tests of the impact of AC magnetic field on electric energy meters.
- The automatic testing include: automatically adjusting AC magnetic field; automatically calibrating the error value and magnetic field influence of the energy meter at each calibration point; automatically controlling the rotation of the ring coil and the platform of the meter under test.
- The software has complete data management functions, convenient data retrieval, and automatic backup functions.
- The software can output statistical reports such as calibration certificates and test reports.

3. Instrument Appearance

☆ Instrument Appearance



NO.	Function
1	The excitation coil can generate a programmable and adjustable power frequency AC magnetic field of 0 to 1200 A/m, and can rotate 360°.
2	The electric meter tray is equipped with all electric energy meter test terminals, which can complete the error test of the energy meter and can be rotated 360°.
3	The manual control area can manually control the rotation of the excitation coil and the meter tray, making it easy to manually adjust the direction of the magnetic field and apply it to the energy meter under test.
4	The console can control the size of the magnetic field and the output of the three-phase energy meter testing device, making it convenient for users to perform manual testing.
5	Standard power source for excitation power supply and three-phase energy meter calibration device.

4. Specifications

Power Frequency AC Magnetic Field Index	Magnetic Field Adjustment Range	0～1200 A/m
	Adjust Fineness	1 A/m
	AC Magnetic Field Stability	0.05%
	Optimal Measurement Uncertainty (k=2)	20 A/m
	AC Magnetic Field Phase Adjustment Range	0～360°
	Phase Adjustment Fineness	0.01°
Class 0.05 Three-phase Energy Meter Testing Device Index	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/Energy Accuracy	Class 0.05

5. General Specification

Power Supply	Single-phase AC (220 ± 22) V, (50 ± 2) Hz
Preheat Time	30 mins
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, non-condensing
Altitude	< 3000 m
Communication Interface	RS232
Size (Workbench included)	3300 mm (W) × 1100 mm (D) × 1400 mm (H)