

OPERATION MANUAL

MODEL: TH-200/TH-200R

Winding Turns Tester

Changzhou Tonghui Electronics Co., Ltd

(VER1.0 @2005.9)

Content

I Summarize	1
1. Product Brief	1
2. Technical indicators	1
II Panel instructions	2
1. The Front Panel Drawing (TH-200R)	2
2. The Back Panel Drawing	3
III.Operating instructions	3
1. Measuring Prepare	3
2. Preferences (Only TH-200R)	3
3. Measurement of Turns	4
3. 1 Select alarm setup	4
3. 2 Measuring of turns	4
4. DCR test (only TH-200R)	4
4. 1 Clear	4
4. 2 Measurement of resistance	4
IV Notice	5
V Whole set and warrant	5
1. Whole set	5
2. Warrant	5

Thanks to purchase our products!

Please confirm with the items of *whole set and warrant* at the end of the instruction book before using this instrument, if it fails to conform, please contact with us as soon as possible in order to maintain your rights.

I Summarize

1. Product Brief:

TH-200/TH-200R winding turns test has applied the latest measuring techniques in this field. It has stabilizing performance and good quality. This series of instrument can test various winding turns and shown the DCR value of copper winding resistance (The testing functions only when it is TH-200R). This instrument is applied to test various winding turns such as electric machine, transformer, electric machine winding, and relay coil. The instrument have some characteristics such as intelligent, novel in the appearance, and high test precision, fast speed, widely range and easily to operate. There is no need of calibrating and renewing the range so it will improve the test efficiency greatly.

2. Technical indicators:

2.1 Working environment:

Temperature 0°C ~ 40°C

Humidity ≤90%RH

Atmospheric pressure 86~104Pa

2.2 Turns testing

2.2.1 The range of turns testing;

1 ring~30000 ring

2.2.2 Measurement error:

The range of winding turns	Measurement error
1 ~ 200	±0.1%±1 Word
201 ~ 1000	±0.2%±1 Word
1001 ~ 5000	±0.3%±2 Word
5001 ~ 30000	±0.5%±6 Word

2.2.3 Turns dimensions:

Inside diameter > 4.5mm, Height < 100mm, Outside diameter < 100mm (The special sizes could be customs made)

2.3 DCR test(Only TH-200R)

2.3.1 Range:

Automatic selecting

2.3.2 Test current:

0.1mA、1mA、10mA、100 mA Four shifting gears automatic selecting

2.3.3 The test range of resistance:

100uΩ~20kΩ

2.3.4 Measurement error:

Resistance range	Measurement error
0. 1Ω~0.9999Ω	±0.7%±2 Word
1Ω~19.99Ω	±0.5%±1 Word
20Ω~19.99KΩ	±0.3%±1 Word

2.4 Operating voltage:

220(1±10%) V AC, 50Hz (1±5%)

2.5 External dimensions:

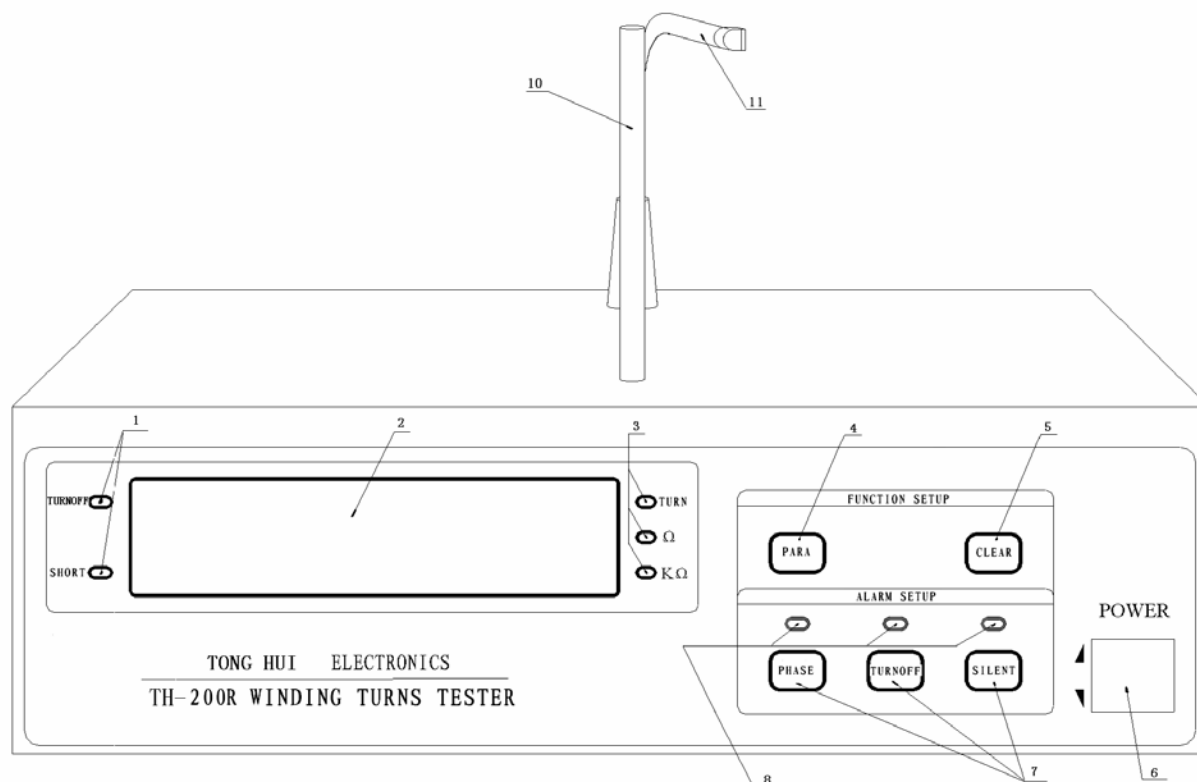
335mm×320mm×290mm

2.6 Weight:

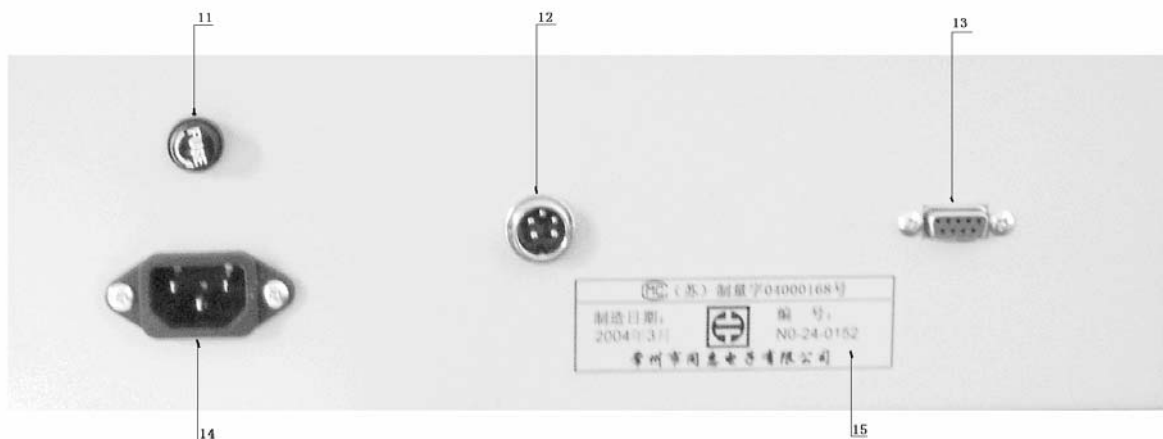
About 6kg

II Panel instructions

1. The front panel drawing (TH-200R)



2. The back panel Drawing



To explain the label on front and back panel as detail as follow:

Label	Name	Functional instruction
The front panel instruction		
1	Indicator lamp	turnoff, short indicator
2	Display window	Display turns or the value of resistance test
3	Indicator lamp (TH-200R)	Turns or the resistance unit indication
4	The key-press of parameter (TH-200R)	Select test turns or resistance
5	The key-press of Clear (TH-200R)	The clear for testing resistance short
6	Power switch	Used in on (1) or off (0) instrument import power
7	The key-press of Phase, turnoff, silent	The mode used in select alarm setup
8	The indicator lamp for alarm setup state	To indicate the alarm setup state
9	Test transducer	Be used in measurement the winding turns
10	Tumbler	anti-clockwise Open it to set the measured turns
The back panel description		
11	Fuse	Be used in overcurrent protection of instrument, please use the 1A fuse
12	Test port	To connect TH26004A connecting line test turns or DCR outside
13	Communication joint	Be use in leave factor check
14	Power socket	Be use in connect 220V power line
15	Nameplate	To mark the manufacturing company, date and instrument No. etc

III Operating instructions

1. Preparation for measuring

When plug power line and testing line, opening the power switch on “1”, and the display and indicator lamp will be on. The display will shown “TH-200” (matches with TH200) or

“TH20R” (matches with TH200R) at one minutes later, the display shown “OPEN” (The state of measurement turns) or “-OU-”(The state of measurement resistance) after it flickers for about 15min. In order to test the instrument accurately, it should to be preheating 15min

2. Preferences(Only TH-200R)

To select test content according with actual measurement and the key of “PARA” can be pressed to conversion between turns test and DCR Test.

3. Measuring of turns

3.1 Select method of alarm setup (this selected method only applicable to the testing of turns, when testing the DCR, select this method is invalid);

Selections of message ring correspond respectively with the key” Phase”,” turnoff”, “silent” and matching indicator lamp. If the corresponding set testing happens in measurement, the inside hummer will go on ringing and inform the testers about the respective alarm.

When the phase key is pressed and the corresponding phase light is on, it suggests that the windings tolerate the phase. Interrupted alarm rings when the opposition is -

Press the key” turnoff”, the corresponding indicator lamp on, it is shown that the tested winding is turnoff (open). Otherwise, the interrupted alarm rings when it fails to connect, at the same time the “turnoff” lamp is on at the upper left of the instrument(TH-201R have no turnoff indicator lamp).The display will shown “-OPEN-”in testing open anytime;

Press the key” silent”, the corresponding indicator lamp on, the alarm still rings as it short.

3.2 Measuring of turns::

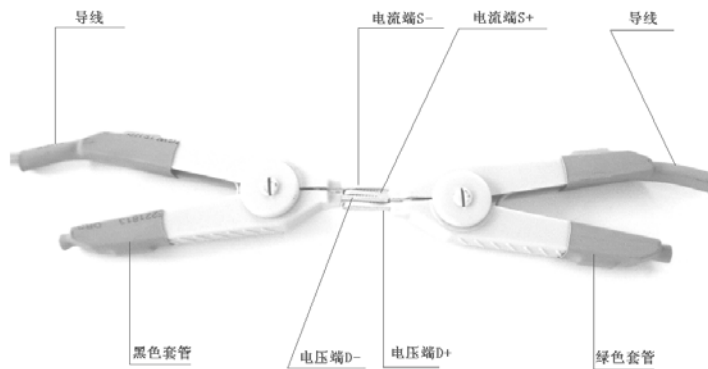
To running the tumbler of transducer to propriety location (the corner $\cong 45^\circ$) in counter-clockwise direction and to set the testing winding into the turns test transducer what is vertical to the instrument plane, then running the tumbler of transducer to close the vertical transducer in clockwise direction and then connect the testing clips and testing winding, the value what the display shown is the practice turns of testing winding value. Repeat above process and test next winding.

6. DCR test (OnlyTH-200R)

Press the” PARA” key into the state of measurement of resistance, and the display shown—OU—.

6. 1 Clear:

The testing clips is short as following drawing, press the “clear” key to clear the base data what it is be applied in measurement resistance.



6.2 Measuring of resistance:

To connect the testing resistance into testing line, the instrument will automatic select span according with the size of resistance value and The LED digital display shown the testing value; select the measurement of resistance after turns testing finished, and can read out the copper resistance of measurement winding. The tested winding will not be set into winding test transducer in measurement of resistance.

IV Notice

1. Dot not lay the instrument near to the larger magnetic field, it will effect the normally test of instrument
2. If the testing winding has short by itself, it will affect precision.
3. The testing winding will be laid in centre of transducer to avoid affecting the test precision of the instrument.
4. Don't through the test line into transducer; it will affect the results of testing
5. The testing line is wearing parts, if the instrument do not have nicely measure or do not test normality, please check the testing line break off whether or not, bad connection or the other failure.
6. The testing element should put and down lightly, to avoid impacting transducer, the rocker of transducer running should not exceed 45° and running the rocker of transducer with high power should damage the transducer forever.
7. To protect transducer in transporting and handling the instrument.。

V Whole set and warrant

1. Whole set:

Please confirm it as follow after unpacking:

- (1) If it is have breakage and scoring on product appearance or not.
- (2) Full product or not:

Name	Account	Remark
TH-200/TH-200R Winding turns tester	one	
Power line	one	

TH26004A Testing Line	one	
1A fuse	two	
The acceptance certificate of product	One	
Warrant card	One	
Operation instructions	One	

If have damage or not match with above table, please contact with us or the purchase company as soon as possible.

2. Warrant:

This instrument have 2 years free warrant (expect damage by custom), maintain for all lifetime.

Because the instrument have special structure, the purchase company should hold the packing always, It is ensure the package have good state in return. During free warrant, if the failure is caused by incorrectly use or take apart the instrument without permission, the custom should bear the repair charge.

Changzhou Tonghui Electric Co., Ltd