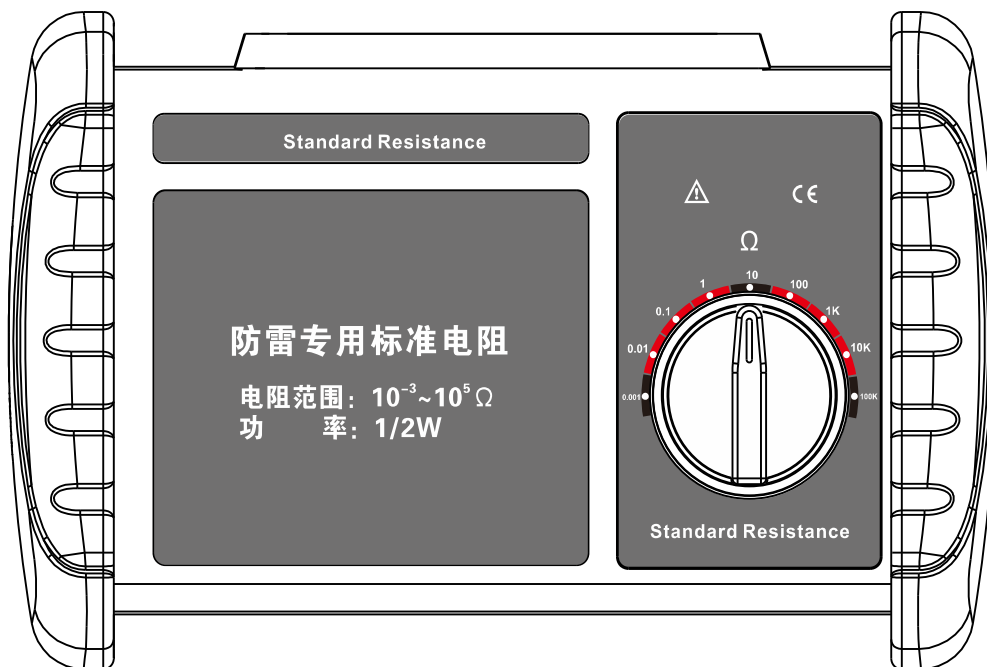


Standard Resistance



FR9010 USER MANUAL

Guangzhou Zhengneng Electronic Technology Co.,Ltd

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Warning

Thank you for purchasing our FR9010 lightning protection special standard resistor. In order to use this product better, please be sure to:

——**Read this user manual in detail.**

——**Strictly follow the safety rules and precautions listed in this manual.**

- ⌌ In any case, the use of this instrument should pay special attention to safety.
- ⌌ Pay attention to the label text and symbols on the instrument panel and back panel.
- ⌌ Please use the four-wire method for calibration, otherwise the accuracy requirements will not be met.
- ⌌ Do not place and store the instrument for a long time under high temperature and humidity, in a place with condensation and direct sunlight.
- ⌌ Use, disassembly, and repair of this instrument must be performed by authorized personnel.
- ⌌ Due to the reason of this instrument, if it is dangerous to continue using it, it should be stopped immediately and sealed immediately, and handled by an authorized institution.
- ⌌ The “” hazard symbol on the instrument and manual, the user must follow the instructions for safe operation.
- ⌌ The “” extremely dangerous sign in the manual must be operated safely by the user in strict accordance with the instructions.

I. Brief Introduction

FR9010 lightning protection special standard resistor consists of 9 1/2W high precision military grade wire wound resistor series. When the instrument is calibrated, there is no need to change the line for direct shifting. The test is convenient, the highest precision is up to 0.05%, and the long-term stability is good. It is a special standard resistor specially designed by our company. Its resistance value includes 1m Ω , 10m Ω , 100m Ω , 1 Ω , 10 Ω , 100 Ω , 1K Ω , 10K Ω , 100K Ω . It fully meets the range of 10⁻³~10⁵ as specified in Order No. 31 of the 《Measures for the Administration of Detecting Qualifications of Lightning Protection Devices》. Mainly used for calibration of grounding resistance tester, equipotential tester, etc.

II.Range and Accuracy

Model	Accuracy(%)	Temperature Coefficient (ppm)
0.001 Ω	2	± 25
0.01 Ω	0.5	
0.1 Ω	0.2	
1.0 Ω	0.2	
10 Ω	0.05	
100 Ω	0.05	
1K Ω	0.05	
10K Ω	0.05	
100K Ω	0.1	

Base condition: 23°C \pm 1°C 50~60 %RH

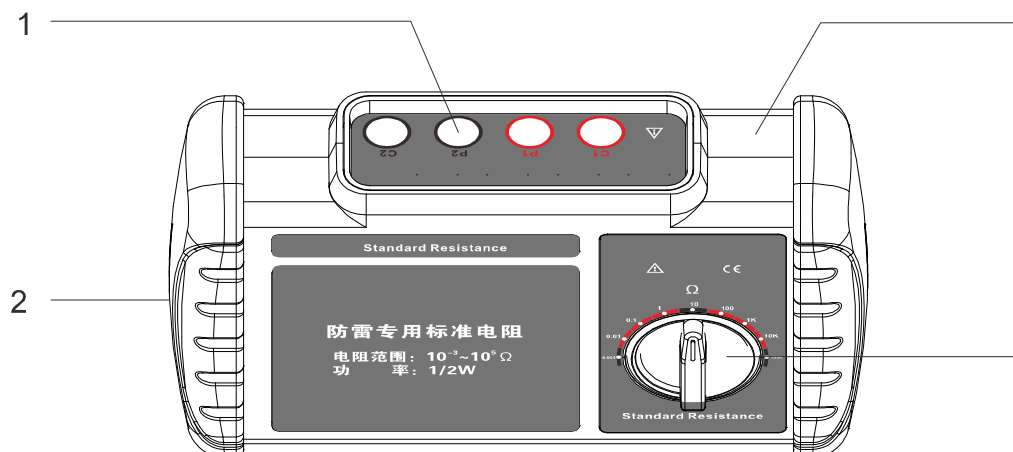
III .Technical Specifications

Function	Used for calibration of ground resistance tester, equipotential tester, etc.
Range	1m Ω , 10m Ω , 100m Ω , 1 Ω , 10 Ω , 100 Ω , 1K Ω , 10K Ω , 100K Ω
Wiring method	Four-wire method
Capacity factor	1/2W
Temperature coefficient	± 25 ppm
Size	L/W/T: 187*119*48mm
Test line length	Red 0.5m, black 0.5m each 2pcs
Weight	About 550g
Working temperature	-10°C~40°C; below 70%rh

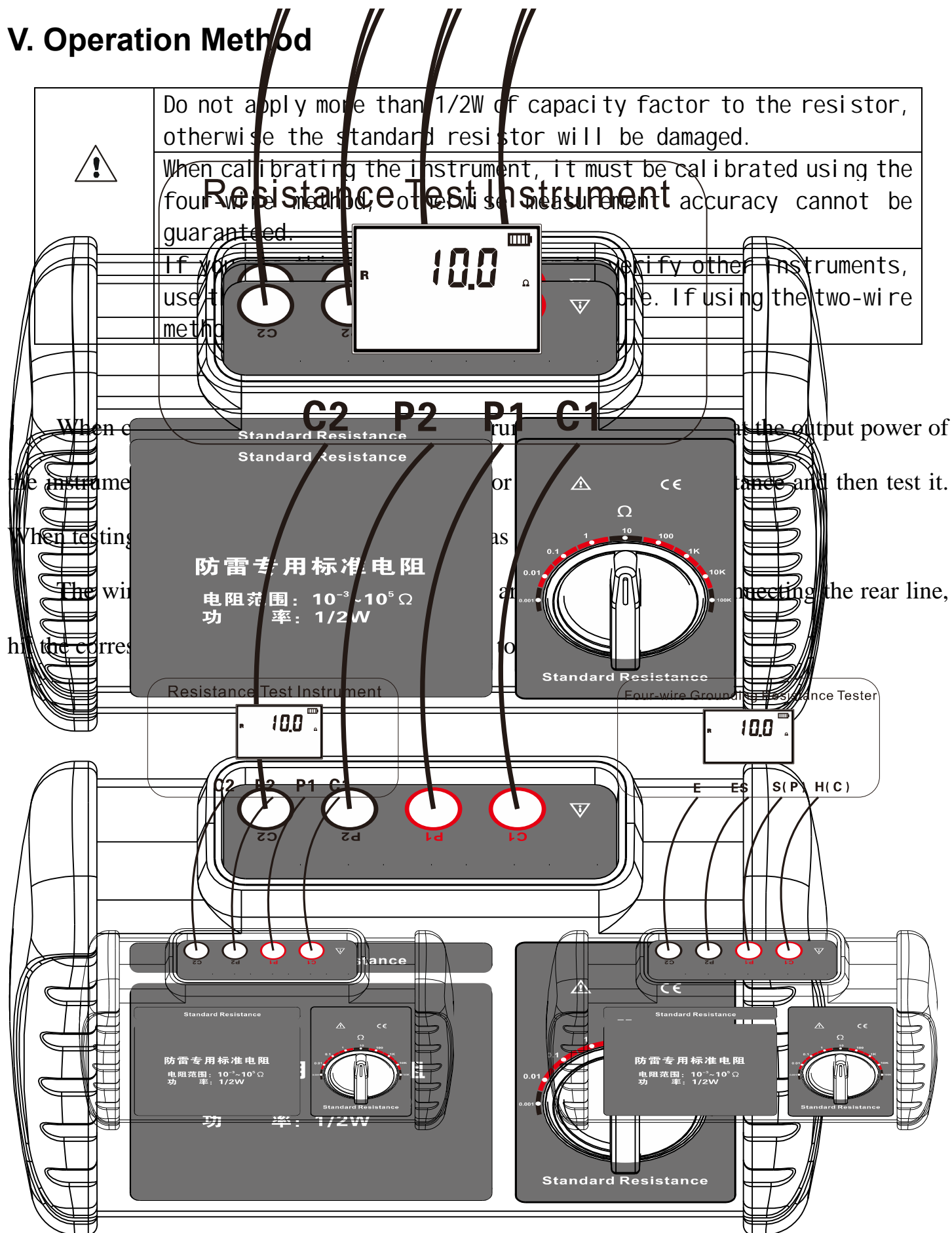
and humi di ty	
Storage temperature and humi di ty	-20℃～60℃； bel ow 80%rh
Insul ation resi stance	More than 10MΩ (between the circuit and the housing 500V)
Pressure resi stance	AC 3700V/rms(between the circuit and the housing)
Sui table for safety regul ations	IEC61010-1, CAT III 600V, pollution level, JJG166-1993 《DC resistance test procedures》

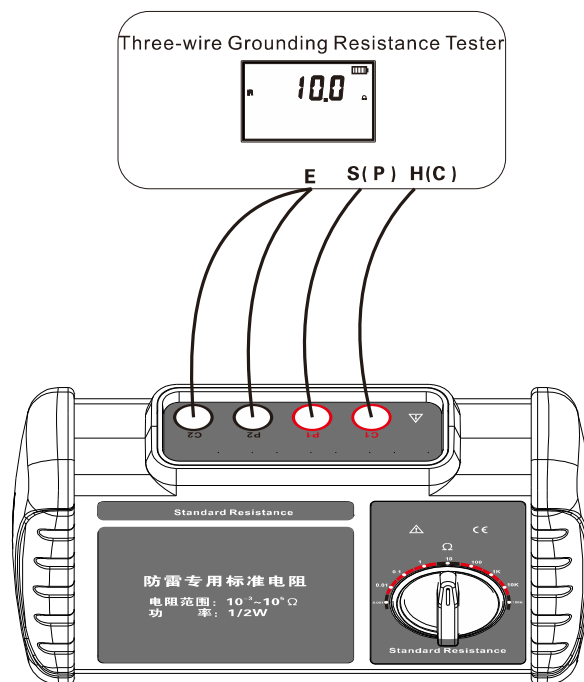
IV. Structure

1. Resistance output jack(C1 P1 P2 C2)
2. Soft protective cover
3. Upper and lower cover
4. Shifting twist switch



V. Operation Method





VI. Accessories

Instrument bag	1PC
Standard resistor	1PC
Test line	4PCS (Red, black each 2PCS)
Manual、certificate	1SET



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