

HTHL-100P Low Resistance Ohmmeter



I. Introduction

Nowadays Power Systems widely use model QJ44 DC double arm bridge to measure contact resistance (DC resistance and Loop resistance of high-voltage circuit breaker) while the minimum current of such model is 1mA which hardly find the decrease of cross-sectional area of transformers' conductive circuit conductor. The measurement of loop resistance of high voltage switchgear is affected by oil layer and oxide between static and dynamic contact port, so the resistance measurement value will be several times larger, and cannot reflect the true value of contact resistance. Therefore, the Ministry of Electric Power in national standards SD301-88 "AC 500KV Electrical Equipment Transfer and Preventive Test Procedure" and new version of " Electrical Equipment Preventive Test Procedure" stipulate that the testing current of circuit breaker and isolating switch contact resistance is not less than 100A to ensure accurate test results. HTHL-100P Digital Low Resistance Ohmmeter measures up to the latest power system standards--DL/T845.4-2004 designed for measuring loop resistance of Switching Control Equipment using High-frequency switching power supply technology and digital circuit technology. Test current of the Tester is DC 100A which is recommended in the national standards. The tester can measure the loop resistance at this value and display the result in digital and with function of storage, printing and time setting. Another 50A is optional. It is high precision and good stability and can meet most power systems' requirements in onsite high-voltage switches maintenance and high-voltage switches factory loop resistance measurement.

II.Features

1. High current, adopts new power techniques, can output current long time and continuously , overcome the malpractice of instantaneous current of the impulse type power, can effectively break through the oxide film of the switch contact, get accurate test results.
2. High stability, under strong interference, the last number displayed by the LCD within the range of ± 1 , with steady reading and good reproducibility.
3. High precision: adopts double channels high-speed 16bits $\Sigma-\Delta$ AD to sample, digital signal processing technique, the maximum resolution up to $0.01\mu\Omega$.
4. Intelligent: use high performance CPU, system can switch the measurement range according the

- size of the signal when testing, ensure the accuracy. The over-temperature protection circuit can auto stop output the current when the device exceeds the rated temperature to ensure the safety.
5. High quality: key components adopts imported components, uses temperature compensating circuit in perfect design which eliminates the effect to test results by temperature, meanwhile strengthen the resistance to shock by using the military connector.
 6. Powerful: current could be 50A, 100A, 150A or 200A measurement time 5s~599s, more powerful than other equipment.
 7. Friendly man-machine interface: enter the data by rotating mouse, easy and convenient, can set the data, time by yourself, save and print the test results in time.
 8. USB dump: Store the data to U disk by USB interface, combining PC software for further analysis and processing of the measurement data.
 9. Easy to use: small in volume, light in weight.

III. Parameters

Measurement range	0~2999.9 $\mu\Omega$	
Resolution	0~99.99, 0.01 $\mu\Omega$	100.0~2999.9, 0.1 $\mu\Omega$
Measured current	DC 50A, 100A fixed output	
Accuracy	$\pm(0.5\% rd+2d)$	
Continuous working time	5s~599s	
Display	LCD	
Communication mode	USB	
Power supply	AC220V \pm 10% 50Hz	
Power of the whole machine	600W	
Maximum storage record	200	
Service conditions	Temperature -10 $^{\circ}$ C~40 $^{\circ}$ C, humidity: \leq 80%RH	
Dimension	360 \times 300 \times 250 mm	
Weight	8Kg(not including accessory)	

IV. Accessories



