TEST-630

Six Phase Universal Protection Device Relay Test Kit

TEST-630 six phase microcomputer protection relay test kit is a smart relay test equipment which offers all the characteristics and functions needed for protective relay testing, in a manual or automatic mode, designed for using on site or in the laboratory. It uses the latest generation of high-speed DSP digital signal processor as the core, dual channel 16 bit DAC, full fidelity high-performance linear amplifier, high output precision, good waveform and stable performance. It is convenient to test the standby automatic switching device and microcomputer differential protection device, and to conduct targeted verification programs for various relays. The powerful function test software can provide complete sets of microcomputer protection and automatic test programs for automatic devices with multiple verification and search methods: line protection, differential protection, impedance protection, low cycle, synchronization, standby automatic switching, etc. All kinds of fault simulation programs can simulate and replay all kinds of faults, transient processes, system oscillations and reclosing actions actually on site.

TEST-630 relay test kit is a the most advanced six-phase relay tester available for type and field testing of electromechanical and digital protections of any kinds of relay. It have six phase current output and six phase voltage output, with eight pairs of binary input and four pairs of binary output, wide frequency output from 0 to 1050Hz, high precision and high stability. It is a ideal test tool for substation commission, acceptance testing and maintenance testing in smart grid.

Application

1. Universities;
2. Power plant;
3. Research institutes;
4. Panel manufacturer;
5. Electrical laboratory;
6. Relay manufacturers;
7. Electrical testing center;
8. Power engineering service company;
9. Electricity power bureau & power company;
10. Power engineering commissioning company;
11.Electrical Department of industrial and mining enterprises;

Features

1. The newly designed software interface is fully consistent with the host machine operation;
2. It can easily complete the protective device test of ABB, Siemens, Schneider, AREVA and other manufacturers;

3. Six-channel current output, Six-channel voltage output;
4. Eight pairs of binary input, Four pairs of binary output;
5. Integration in 8 inches TFT color LCD, light weight and easy to carry;
6. 0-30A/phase, max 180A; 0-130V/phase, max 300V;
7. Frequency output from 0 to 1050Hz;
8. Phase shift from 0° to 360.000° or -180.000° to 180.000°;
9. With PC control software optional;
10. Panel embedded user-friendly buttons, and external keyboard and mouse;
11. High-precision DAC to 12 channel, simultaneously voltage and current output;
12. High precision and good unique linearity of power amplifier;
13. Auto test and manual test optional;
14. The test report can be easily derived from the USB port to print;
15. COMTRADE recording file fault recurrence wave;
16. Built-in high-speed and high-performance industrial computer embedded operating system, running stable and reliable, also can test;
17. Overcurrent, overvoltage, overload, short circuit and over-high temperature intelligent self-protection;
18. Extensive testing capabilities: state sequence, IT features analog oscillation,setting group of test, differential protection test, harmonic test, distance protection test, fault playback, special tests etc.

Test Item

1. U/I test
2. Special test
3. State sequence
4. Setting group test
5. Power direction test
6. Frequency Protection
7. Zero sequence protection
8. DC test
9. Harmonic test
10. Differential relay
11. Distance protection
12. Synchronization test
13. Differential protection
14. Impedance characteristics
15. I-T test
16. Oscillation test
17. Fault Recurrence
18. Hardware checkout
19. Metering instrument
20. Low Voltage protection

Parameters

Electrical parameters	
Power voltage	AC220V±10% or AC110V±10%, 50/60Hz±10%
AC current output(Ia, Ib, Ic, Ix, Iy, Iz)	
Phase current output (effective value)	6×0-30A or 3 × 0-60A
Maximum power output	520VA/phase
Maximum parallel current output (effective value)	0-180A
Long-term allowable working value of phase current (effective value)	0-10A
Rosolution	1mA

Electrical parameters - continued	
AC current output(Ia, Ib, Ic, Ix, Iy, Iz) - continued	
Allowable working time of maximum current	>11s
Accuracy class	<±0.2% , Typital 0.05%
AC voltage output(Ua,Ub,Uc,Ux,Uy, Yz)	
Phase voltage output (effective value)	6 x 0-130V
Line voltage output (effective value)	0-260V
Maximum power output	70VA/phase
Rosolution	1mV
Accuracy class	<±0.2% , Typital 0.05%
Power output	
Accuracy class	<±0.2% , Typital 0.05%
Frequency output	
Output frequency	0-1050Hz
Frequency error	<±0.001Hz
Phase angle output	
Phase angle	-180.000°-0-180.000°, 0.000°-360.000°
Phase error	<±0.1°, Typital 0.05°
DC current output	
Output range	-10 to 10A or 6 x 0 to ±10A
Maximum power output	200VA
Accuracy class	<±0.2% , Typital 0.05%
DC voltage output	
Output range	0-300V or 6 x 0 to ±130V
Maximum output power	130VA
Accuracy class	<±0.2% , Typital 0.05%
Binary input	
Idle contact	1-20mA, 24V (DC)
Electric potential contact	250V/0.5A (DC)
Binary input number	8PCS
Binary output	
Idle contact	250V/0.5A (DC)
Binary output number	4PCS

Electrical parameters - continued	
Function	
Waveform distortion	<±0.3% (fundamental wave)
Time measurement	0.1ms-999999.999s
Time error	<40μs
Superposed harmonic wave	0-21times
Auxiliary DC voltage	110V or 220V Optional
GPS	Optional
LCD	8 inch color TFT LCD
Key	24pcs key
Communication port	RS232, USB, VGA, 10/100M LAN
Standard	IEC 61010, IEC 61000, IEC 61326, JJG1112-2015, DL/T624-2010, DL/T 1153 -2012
Mechanical parameters	
Dimensions (L×W×H) (mm)	360x195x375
Weight (kg)	18.6
Environmental conditions	
Operation temperature	0°C to 50°C
Storage temperature	-25°C to 70°C
Humidity range	Relative humidity 5 ... 95 %, non-condensing

Testing ansi Standard device

ANSI Standard Device		
List of Device Numbers	Relay or Circuit Rreaker	FUNCTION
2	Time Delay Starting or Closing Relay	Yes
21	Distance Relay	Yes
24	Over-Excitation Relay	Yes
25	Synchronizing or Synchronism-Check Device	Yes
27/27N	Undervoltage Relay	Yes
30	Annunciator Relay	Yes
32	Directional Power Relay	Yes
36	Polarity or Polarizing Voltage Devices	Yes
37	Undercurrent or Underpower Relay	Yes

ANSI Standard Device - continued

List of Device Numbers	Relay or Circuit Rreaker	FUNCTION
40	Field Relay	Yes
46	Reverse-phase or Phase-Balance Current Relay	Yes
47	Phase-Sequence Voltage Relay	Yes
50/50N	Instantaneous Overcurrent or Rate of Rise, Relay	Yes
51/51N	AC Time Overcurrent Relay	Yes
52	AC Circuit Breaker	Yes
53	Exciter or DC Generator Relay	Yes
55	Power Factor Relay	Yes
56	Field Application Relay	Yes
58	Rectification Failure Relay	Yes
59/59N	Overvoltage Relay	Yes
60	Voltage or Current Balance Relay	Yes
61	Machine Split Phase Current Balance	Yes
62	Time-Delay Stopping or Opening Relay	Yes
64	Ground (Earth) Detector Relay	Yes
67/67N	AC Directional Overcurrent Relay	Yes
68	Blocking Relay	Yes
74	Alarm Relay	Yes
76	DC Overcurrent Relay	Yes
78	Phase-Angle Measuring or Out-of-Step Protective Relay	Yes
79	AC Reclosing Relay	Yes
81/81U/O/R	Frequency Relay	Yes
82	DC Reclosing Relay	Yes
85	Carrier or Pilot-Wire Receiver Relay	Yes
86	Lockout Relay	Yes

ANSI Standard Device - continued		
List of Device Numbers	Relay or Circuit Rreaker	FUNCTION
87	Differential Protective Relay	Yes
91	Voltage Directional Relay	Yes
92	Voltage and Power Directional Relay	Yes
94	Tripping Relay	Yes