

Test-330

Three Phase Relay Protection Microcomputer Test System

Test-330 three phase microcomputer protection relay test system is the highly efficient relay test equipment of GFUVE company. It is produced by referring to Technical Condition for "DL/T624-2010" Microcomputer Relay & Protection Test Device issued by the original Power Department, extensively listening to the opinions of users, carefully reviewing the developing and producing experience of the former generations of products and adopting the modern latest digital technology, high precision electronic apparatus, microcomputer system and new circuit and new structure. This model relay test equipment can independently finish device test in professional fields of microcomputer protection, relay protection, excitation, metering, fault recording, etc. and is widely applied to scientific research, production and electrical test sites in electric power, petrochemical, metallurgy, railway, aviation and military industries.

Application

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



Test Item

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

Features

1. 8 binary inputs, 4 binary outputs;
2. Intelligent self-protection function;
3. Frequency output from 0 to 1050Hz;
4. High-accuracy linear power amplifier;
5. Hardware self-calibration function for user;
6. Plentiful Binary and powerful software function;
7. Phase shift from 0° to 360.000° or -180.000° to 180.000°;
8. Eight channel synchronous D/A output in a single machine;
9. Max AC current output is 90A, Max AC voltage output is 260V;
10. Synchronous output of five channel voltage and three channel current;
11. Overload, short circuit and over-high temperature intelligent self-protection;
12. Embedded host machine equipped with Complex Programmable Logic Device (CPLD);
13. Host machine integrated single cabinet structure with big LCD screen and complete interface has obtained appearance patent;
14. Easily complete the ABB, Siemens, AREVA, Schneider, GE, SEL, VAMP, Toshiba, NR, Sifang and other manufacturers of protective device test;

Electrical parameters

Power voltage	AC220V±10% or AC110V±10%, 50/60Hz±10%
AC current output(Ia, Ib, Ic)	
Phase current output (effective value)	3 x 0-30A
Maximum power output	260VA/phase
Maximum parallel current output (effective value)	0-90A
Long-term allowable working value of phase current (effective value)	0-10A
Resolution	1mA
Allowable working time of maximum current	>11s
Accuracy class	<±0.2% , Typital 0.05%
AC voltage output(Ua,Ub,Uc,Ux,Uy)	
Phase voltage output (effective value)	5 x 0-130V
Line voltage output (effective value)	0-260V
Maximum power output	70VA/phase
Resolution	1mV
Accuracy class	<±0.2% , Typital 0.05%

Electrical parameters - continued
Power output

Accuracy class <math>\pm 0.2\%</math>, Typical 0.05%

Frequency output

Output frequency 0-1050Hz

Frequency error <math>\pm 0.001\text{Hz}</math>

Phase angle output

Phase angle -180.000°-0-180.000°, 0.000°-360.000°

Phase error <math>\pm 0.1^\circ</math>, Typical 0.05°

DC current output

 Output range -10 to 10A or 3 x 0 to $\pm 10\text{A}$

Maximum power output 200VA

Accuracy class <math>\pm 0.2\%</math>, Typical 0.05%

DC voltage output

 Output range 0-300V or 5 x 0 to $\pm 130\text{V}$

Maximum output power 130VA

Accuracy class <math>\pm 0.2\%</math>, Typical 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

Function

Waveform distortion <math>\pm 0.3\%</math> (fundamental wave)

Time measurement 0.1ms-999999.999s

Time error <math>40\mu\text{s}</math>

Superposed harmonic wave 0-21times

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) 16.6

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 Breaker	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
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

ANSI Standard Device - continued

List of Device Numbers	Relay or Circuit Breaker	FUNCTION
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
87	Differential Protective Relay	Yes
91	Voltage Directional Relay	Yes
92	Voltage and Power Directional Relay	Yes
94	Tripping Relay	Yes