

KF932 IEC61850 Relay Test Set



Comply with IEC61850 standard, Applied to digital protection relay, Measure&control device, intelligent terminal ,Merge Unit and substation control system testing and detection.

Touch screen and keypad, to meet different using habits.

4400mAh large capacity lithium battery, continuous work for more than 10 hours

Small size, easy to portable.

Designed usage

KF932 Hand-held Digital Relay Test Set is developed based on IEC61850 standard for intelligent substation. With the function of analyze the SV, GOOSE, B code and IEEE1588 message, calculate the magnitude, phase and frequency of voltage and current, and real-time monitor of GOOSE virtual terminal.

Receiving closed-loop testing of smart devices via SV, GOOSE message sending, subscription and publication of GOOSE messages; Phase detection function is achieved by analyzing and calculating different control blocks; The use of binary input and output of the hard contact can be completed on the intelligent operation box transmission delay and SOE on the accuracy of the measurement; SV and GOOSE exception statistics analysis and synchronization function to achieve the integration of the unit

discrete, lost frame and absolute delay measurement.

With small size, touch the performance of the operation of the convenience and powerful measurement and analysis and testing capabilities, KF932 Hand-held Digital Relay Test Set is greatly to meet the intelligent substation operation, maintenance and debugging of the protection, monitoring and control devices, intelligent terminals, the merger unit and the station control system Detection and commissioning requirements.

Technical Features

No.	Analysis Item	Analysis content
SMV Measurement and analysis	Interception	Automatically intercepts SV message from 3 fiber ports and 1 optical serial port

	Effective value	Real-time display channel of amplitude, phase and frequency
	Oscillography	Real-time display of wave-forms
	Sequence symmetrical	Real-time display the positive sequence symmetrical, negative sequence symmetrical, zero positive sequence symmetrical of magnitude and phase
	Power	Real-time display of ABC phase and three-phase active, reactive power, apparent power and power factor
	Vectorgraph	Magnitude and phase of

		three-phase voltage and current are displayed in vector form
	Harmonic	Real-time display 0 ~ 19th harmonics, harmonic content in display in form of histograms
	Message parameter	Real-time display message parameters, original message and parsed message information
	Abnormal message	statistics packets of abnormal message
	Discrete value	Statistics number of messages in each discrete area
GOOSE analytical	Interception	Automatically intercepting GOOSE

and analysis		messages from 3 fiber ports
	Virtual terminal	Real-time display status of the virtual terminal, support different display method. Automatically record trigger time of the virtual terminal.
	Message	Real-time display current message value and the original message value.
	Abnormal message	statistics packets of abnormal message
Others	Recorder	Record and analyze messages in off-line mode

	<p>Measurement of flow and optical power</p>	<p>Real-time statistics of network traffic size and received optical power</p>
	<p>PCAP message analysis</p>	<p>Offline analysis of messages stored in PCAP format</p>
	<p>Polarity test</p>	<p>Test the polarity of the transformer</p>
<p>Test Modules</p>	<p>Manual test</p>	<p>Through the output of SV messages, GOOSE message simulation and subscription together with the binary input and output of hard contact to protect, monitor and control of the IED device test.</p>

	State sequencer	By outputting multiple consecutive states, for user-defined tests. For each individual state, the magnitude, phase, and frequency of the voltage and current can be set. Setting up the status of GOOSE virtual terminals to meet various test requirements.
	Intelligent operation box test	Measuring the transferring delay and SOE time accuracy between the GOOSE and the hard contact.
	Superimposed harmonic	2~19 harmonics are superimposed on the output fundamental voltage

		and current to realize the test of IED devices such as protection, measurement and control.
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Technical Parameter

1 Power Supply

Power Supply	
Battery	12.6V, 4400mAh Large capacity lithium battery
Power	Input: AC100~240V, 50/60Hz, 0.7A
Adapter	Output: DC15V, 1.66A

2 Power consumption

Power consumption	
Power consumption	$\leq 6W$
Working power supply	Continuous work for more than 10 hours

3 Communication port interface

Optical Ethernet communication port	
Model	100Base-FX (100M Full duplex optical fiber network)
Port Type	LC
Wave-length	1310nm
Transmission distance	$\geq 1km$
Application	Receive/Send IEC61850-9-2/LE Message 、 Receive/Send GOOSE

	Message ; IEC61588 synchronize and other network messages
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Optical serial port communication interface	
Port number	2 pcs
Port Type	ST
Wavelength	62.5/125 μ m Multi-mode fiber , Wave-length 850nm
Transmission distance	\geq 1km
Application	Receive/Send IEC60044-7/8 (FT3) , IRIG-B synchronize signal transceiver

Analog input communication interface	
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Port number	1 pair
Port Type	Rubber terminal

Hard contact input / output communication interface	
Port number	2 pairs
Port Type	Aviation socket to rubber terminal

TF card slot interface	
Port number	1 pcs
Application	TF card for importing the whole station configuration file, recording documents, storing/exporting test reports and upgrading software.

Analog input communication interface	
Port number	1 pair

4 Synchronize signal

Synchronize signal	
IRIG-B	Time accuracy<1us typ
IEC 61588	Time accuracy<1us typ

5 Mechanical parameters

Mechanical parameters	
Display screen	4.3" LCD screen (with touch function)

Size	176×100×58 mm
Weight	≦ 0.75kg

6 Temperature range

Temperature range	
Altitude	≤5000m
Ambient temperature	Normal operating temperature: -10 ~ 55°C Storage and transportation: -25 ~ 85°C
Relative humidity	5% ~ 95%
Atmospheric-pressure	60 ~ 106KPa