

KINGSINE

Specialize in Electric Power Testing



All-in-one Design

KINGSINE

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Introduction to Enterprise

Established in 1999, KINGSINE are the top leading factory supplier for designing and providing the Portable Electrical T&M Instruments and Power Management Solutions in China. With ISO 9001:2008 certified Quality Management teams of Research & Development, Production and Marketing.

With 18 years of steady & honorable development, there are thousands of users who recommend KINGSINE brand and product; so far KINGSINE establish its branch office in HongKong, India etc. to offer direct technical service and after service in local and neighbourhood area. Our products sell to over 70 countries in America, Europe, Oceania, Asia and Africa. Most importantly, KINGSINE products can help clients improving their working efficiency and greatly reducing their asset purchase budget.

KINGSINE integrates all precision processing and advancing manufacture method around mainly on:

1. Protection Relay Test Set
2. Power Management System
3. Standard Power Source
4. Multifunctional Power Meter
5. Engybrick Module Power Meter

Contents

| | |
|-------------------------------|----|
| Universal Relay Test Set | 01 |
| Fiber Digital Relay Tester | 09 |
| Comparison Among Relay Tester | 11 |
| KRT Relay Test Software | 12 |
| Standard Power Source | 13 |
| Power Meter Series | 15 |
| Engybrick Module Power Meter | 17 |
| Certificates | 19 |
| Applications Case | 20 |



Universal Relay Test Set



K3163i Universal Relay Test Set **NEW**

All-in-one hardware design complying with IEC61850 SV & GOOSE

- Digital signal output complying with IEC61850-9-1 / IEC61850-9-2 protocols.
- Synchronize with GPS, IRIG-B.
- Suitable testing for all kinds of Electromagnetic relays, Microcomputer relays, digital relays.

| Voltage Outputs | |
|--------------------------|---|
| Output Range | 4×310V ac(L-N);2×620V ac(L-L);3×350V dc(L-N) |
| Accuracy | AC:<0.03%Rd+0.02Rg Typ./<0.07%Rc+0.03Rg Guar. DC:±10mV@<5V,±0.5%@≥5V |
| Current outputs | |
| Output Range | 6×35A ac(L-N);3×70A ac(2L-N);1×100A ac(6L-N);3×20A dc(L-N) |
| Accuracy | AC:<0.03%Rd+0.02Rg Typ./<0.15%Rc+0.05Rg Guar. DC:±5mA@<1A,±0.5%@≥1A |
| Aux. DC Voltage Source | |
| Range | 0~350V @ 180W max |
| Accuracy | 0.5% Rg Guar. |
| Others | |
| Frequency Range | DC~1KHZ, 3KHZ Transient |
| Phase Range | 0°~360° |
| Binary Input | |
| Quantity | 8 pairs |
| Binary Output | |
| Quantity | 4 pairs (Semiconductor type & Relay Type) |
| Synchronization | |
| Synchronization mode | GPS, SMA type antenna connector / IRIG-B |
| Optional Modules | |
| Transducer Calibrator | Hardware is ready, to be actived |
| Standard Meter | Require extra PCB pre-installed in factory on y |
| Transient Recorder | Require extra PCB pre-installed in factory on y |
| Energy Meter Calibration | Hardware is ready, to be actived |
| IEC61850 SV & GOOSE | Hardware is ready, to be actived |

K31 Series Ordering Ref.

| Model | Current Outputs | Voltage Outputs |
|--------|-----------------------------------|------------------|
| K3166i | 6×35A@450VA max / 3×70A@850VA max | 7×310V@90VA max |
| K3163i | 6×35A@450VA max / 3×70A@850VA max | 4×310V@124VA max |
| K3130i | 3×35A@450VA max | 4×310V@124VA max |

Universal Relay Test Set



K30 Series Relay Test Set

Universal Relay Test Set

- Graphical test modules and templates for testing of various relays
- Quick relay testing facility in Manual mode
- Shot / Search / Check, Point & Click testing
- RIO / XRIO import & export facility

| Voltage Outputs | |
|---|--|
| Output Range | 4×300V ac(L-N);2×600V ac(L-L);3×300V dc(L-N) |
| Accuracy | AC:±2mV@0.2~2Vac;<0.03%Rd+0.01Rg Typ./<0.07%Rd-0.03Rg Guar. DC:±10mV@0.05V~5Vdc,±0.5%@5V~300V dc |
| Current Outputs | |
| Output Range | 6×30A ac(L-N);3×60A ac(2L-N);1×100A ac(6L-N);3×20A dc(L-N) |
| Accuracy | AC:±1mA@0.2A-0.5Aac;<0.05%Rd+0.02Rg Typ. <0.15%Rd-0.05Rg Guar. DC:±5mA@0.2A~1A dc,±0.5%@1A~20A dc |
| Aux. DC Voltage Source | |
| Range | 0~300V@ 120W max |
| Others | |
| Frequency Range | 5~1000HZ |
| Phase Range | -360°~ +360° |
| Binary Inputs | |
| Quantity | 8 pairs |
| Binary Outputs | |
| Quantity | 4 pairs |
| Synchronization | |
| Synchronization mode | GPS, SMA type antenna connector |
| Optional Modules | |
| Transducer / Energy Meter / Recorder & Standard Meter | |

K30 Series Ordering Ref.

| Model | Current Outputs | Voltage Outputs |
|--------|-----------------------------------|------------------|
| K3066i | 6×30A@450VA max / 3×60A@850VA max | 7×300V@90VA max |
| K3063i | 6×30A@450VA max / 3×60A@850VA max | 4×300V@120VA max |
| K3030i | 3×30A@450VA max | 4×300V@120VA max |

Universal Relay Test Set



K68 Series Relay Test Set

Three-Phase Relay Test Set

- Auto / Manual Test on: DC Test, AC Test, Distance Test, Harmonic Test, Frequency protection Ramp Test.
- Optional PC Control Software: Differential / Advanced distance / State sequence etc.

| AC Voltage Outputs | |
|------------------------|--|
| Range | 4-phase AC(L-N),4×0~300V ; 2-phase AC(L-L),2×0~600V |
| Accuracy | ±2mV(0.2V-2V) / ±0.1%(2V-300V) |
| AC Current Outputs | |
| Range | 3-phase AC(L-N),3×0~35A ; 1-phase AC(L-N),1×0~105A |
| Accuracy | ±1mA(0.2A-1A) / ±0.1%(1A-35A) |
| Others | |
| Frequency Range | 1~1000Hz |
| Phase | Range: -360°~360°; Accuracy: <0.2° |
| DC Outputs | |
| Voltage | Range: 0~300V / 180W Accuracy: ±25mV(0.5V~5V); ±0.5%(5V~300V) |
| Current | Range: 0~20A / 300W Accuracy: ±5mA(0.2A~1A); ±0.5%(1A~20A) |
| Aux. DC Voltage Source | |
| Range | 0~300V / 0.6A |
| Binary Input | |
| Quantity | 8 pairs |
| Binary Output | |
| Quantity | 4 pairs |
| Harmonic | |
| Stacking Times | 2~9 times |

K68 Series Ordering Ref.

| Model | Model | Current Outputs | Voltage Outputs |
|-------|-------|-----------------|-----------------|
| K68 | K68 | 3×35A | 4×130V |
| | K68i | 3×35A | 4×300V |

Universal Relay Test Set



K60 Series Relay Test Set

Universal Relay Test Set (Lightweight <18kg)

- High 9.7" TFT LCD screen with resolution
- Perform full function tests in same KRT software screen with or without external laptop
- Small size & Lightweight

Voltage Outputs

| | |
|--------------|---|
| Output Range | 4×300V ac(L-N);2×600V ac(L-L);3×300V dc(L-N) |
| Accuracy | AC:±2mV@0.2~2Vac;<0.03%Rd+0.01Rg Typ./<0.07%Rd-0.03Rg Guar. DC:±10mV@0.05V~5Vdc,±0.5%@5V~300V dc |

Current Outputs

| | |
|--------------|--|
| Output Range | 6×30A ac(L-N);3×60A ac(2L-N);1×100A ac(6L-N);3×20A dc(L-N) |
| Accuracy | AC:±1mA@0.2A-0.5Aac;<0.05%Rd+0.02Rg Typ. <0.15%Rd-0.05Rg Guar. DC:±5mA@0.2A~1A dc,±0.5%@1A~20A dc |

Aux. DC Voltage Source

| | |
|-------|------------------|
| Range | 0~300V@ 120W max |
|-------|------------------|

Others

| | |
|-----------------|-------------|
| Frequency Range | 5~1000HZ |
| Phase Range | -360°~+360° |

Binary Inputs

| | |
|----------|---------|
| Quantity | 8 pairs |
|----------|---------|

Binary Outputs

| | |
|----------|---------|
| Quantity | 4 pairs |
|----------|---------|

Synchronization

| | |
|----------------------|---------------------------------|
| Synchronization mode | GPS, SMA type antenna connector |
|----------------------|---------------------------------|

Optional Modules

Transducer Calibrator / Energy Meter Calibration / Standard Meter

K60 Series Ordering Ref.

| Model | Current Outputs | Voltage Outputs |
|--------|-----------------------------------|------------------|
| K6066i | 6×30A@450VA max / 3×60A@850VA max | 7×300V@90VA max |
| K6063i | 6×30A@450VA max / 3×60A@850VA max | 4×300V@120VA max |
| K6030i | 3×30A@450VA max | 4×300V@120VA max |

Fiber Digital Relay Tester



KF910 Fiber Digital Relay Tester

Able to test the numerical IEDs relays according to IEC61850-9-1, IEC61850-9-2, IEC60044-7/8 etc.

- Displayed by embedded 9.7 inch TFT LCD screen with 1024×768 resolution; Inbuilt keyboard and mouse make it easy operation for user and provide excellent user experience for intelligence substation
- Subscribe and simulation GOOSE message
- Inbuilt GPS module, fiber IRIG-B code synchronization and IEEE1588 time synchronization function

Fiber Optic Communication Interface

| | |
|-------------|--------------------------------|
| Port Number | 4 / 8 / 12 / 16 pairs optional |
| Port Type | LC |

FT3 Port

| | |
|-------------|--|
| Port Number | 4 / 8 / 12 / 16 for sending, 2 for receiving |
| Port Type | ST |

Binary Input

| | |
|--------------|--|
| Quantity | 8 pairs |
| Binary Input | Dry contacts / 0~300Vdc (Binary input reversal potential can be set) |

Binary Output

| | |
|-------------------|---|
| Quantity | 8 pairs |
| Binary Output 1~4 | Potential relay contacts (software controlled) AC: Vmax:250V/Imax:3A; DC: Vmax:250V/Imax:1A |
| Binary Output 5~8 | fast contact, open collector; response speed:100us; DC Break capacity: 5-15V/5mA, 10mA max; AC not permit |

Time Synchronization

| | |
|----------|-------------------------------|
| GPS | Support, Built-in integration |
| IRIG-B | Support, port type ST |
| IEEE1588 | Support, port type LC |

Other Port

| | |
|-------|-------|
| RJ45 | 2 pcs |
| USB | 2 pcs |
| RS232 | 2 pcs |

Low-level Single Analog Output





| | |
|----------------|-------------------------------------|
| Output Channel | 13 channels |
| Set Range | AC: 0~8Vrms (Valid value); DC: 0~8V |

Power Supply

| | |
|---------------------|---------------------------------|
| Nominal Voltage | 100~240V(AC) |
| Allow Voltage | 100V~260V (AC) or 127V~350V(DC) |
| Nominal Frequency | 50Hz |
| Allow Frequency | 40~60Hz |
| Current Consumption | 3A(max) |
| Connection Type | Standard AC socket 60320 |

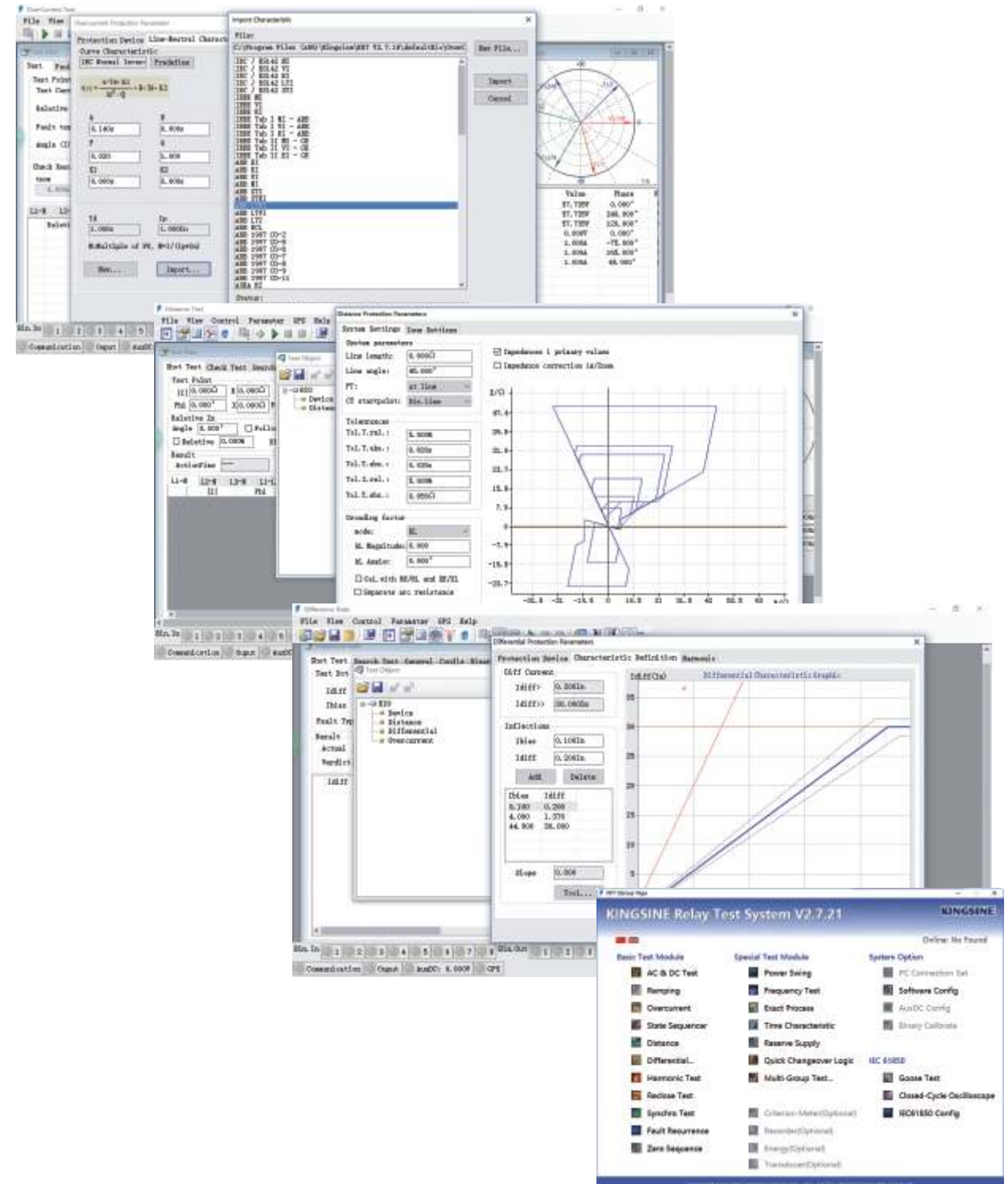
Comparison Among Relay Tester

Comparison among K10,K60,K30 & K31 Series

| Item | K1063i | K6063i | K3063i | K3163i |
|---------------------------------|---|---|--|---|
| |  |  |  |  |
| Functions | Be able to test all type of traditional relays | Be able to test all type of traditional relays | Be able to test all type of traditional relays | Be able to test all type of traditional relays & complying IEC61850 SV and GOOSE |
| Weight | 24KG | 18KG | 17.5KG | 17.5KG |
| Low-level Output | N/A | N/A | N/A | 13 channel low-level output, 0~8Vrms |
| Amplifier | 6×30A, 4×300V | 6×30A, 4×300V | 6×30A, 4×300V | 6×35A, 4×310V |
| Display | 6.4" TFT 640×480 | 9.7" LED 1024×768 | N/A | N/A |
| End-to-End | External GPS, optional | In-built GPS | In-built GPS | In-built GPS & IRIG-B |
| OS | WinCE, Local or PC control | WinXPE, Local or PC control, same operation interface | PC control | PC control |
| Energy Meter Calibration | N/A | Optional Accuracy: 0.2% | Optional Accuracy: 0.2% | Optional Accuracy: 0.1% |
| Transducer Calibration | N/A | Optional Accuracy: 0.2% | Optional Accuracy: 0.2% | Optional Accuracy: 0.05% |
| Criterion Meter | N/A | Optional Accuracy: 0.2% | Optional Accuracy: 0.2% | Optional Accuracy: 0.1% |
| Transient Recorder | N/A | Optional, 30 seconds Max. | Optional, 30 seconds Max. | Optional, 50 seconds Max. |

KRT Relay Test Software

- Testing library consist of RIO files
- No limited to number of PC / Users



Standard Power Source



KS833 Series Standard Power Source

AC/DC Standard Source And Calibrator

- Open protocol for software self-programming
- 3-phase Harmonic standard power
- Analog/Digital meters calibration
- Transducer and Energy meter calibration

| Output & Measuring AC Voltage | |
|------------------------------------|---|
| Available Ranges | 10V,30V,100V,300V,750V,auto-shift |
| Accuracy | 0.05%Rg |
| Output & Measuring AC Current | |
| Available Ranges | 100mA,1A,5A,10A,25A,auto-shift |
| Accuracy | 0.05%Rg |
| Output & Measuring AC Frequency | |
| Frequency Range | 45.000~65.000Hz |
| Accuracy | 0.01%Rd |
| Output & Measuring AC Phase Angle | |
| Phase Angle Range | 0.00°~359.99° |
| Accuracy | 0.05° |
| Output & Measuring AC Power Factor | |
| Output Range | -1~0~+1 |
| Output & Measuring Harmonic | |
| Harmonic Setting | 2~31 |
| Harmonic Content | Voltage, Current≤30% (as against fundamental) |
| Output & Measuring DC Voltage | |
| Available Ranges | 100mV,1V,10V,30V,100V,750V |
| Accuracy | 0.02%Rg |
| Output & Measuring DC Current | |
| Available Ranges | 1mA,10mA,100mA,1A,5A,10A,25A |
| Accuracy | 0.05%Rg |

KS8 Series Ordering Ref.

| Function modules | Models | | | |
|--------------------------|--------|-------|-------|-------|
| | KS833 | KS823 | KS813 | KS803 |
| AC Standard Source | √ | √ | √ | √ |
| Harmonic Standard Source | √ | √ | √ | √ |
| DC Standard Source | √ | √ | √ | - |
| Instrument Calibration | √ | √ | - | - |
| Power Meter Calibration | √ | - | - | - |
| Transducer Calibration | √ | - | - | - |

Remark: "-" stand for not supporting functions, "√" stand for the standard configuration

Certificates



Application Case

