

KV5-100

High Voltage AC Test System



Features

- Continuously variable output voltage 0-5kVac
- Variable trip circuit 2-12mA and 20-120mA
- Output voltage and current metering
- Visual and audible indication of test piece failure
- Compact lightweight instrument
- Burn feature giving 100mA maximum current on short circuit
- Key operated switch preventing unauthorised operation
- Complies with the testing requirements of BS1363

T&R Test Equipment is a market leader in the field of protection test equipment. The range includes primary and secondary current injection equipment up to 6000A, voltage sources, micro-ohmmeters and high voltage test systems up to 100kV.

The KV5-100 high voltage test set is a general purpose test instrument designed for testing insulation systems and the measurement of breakdown voltage on electrical plant and components.

The unit has an output voltage adjustable from zero to 5kV with accurate metering on both the output voltage and current. A zero-voltage interlock is provided, ensuring that the output may only be energised with the voltage control at zero.

The output voltage is metered by a large, linear analogue instrument with a dual-scale marking of 0-3kV and 0-6kV. Load current is metered by a second analogue instrument with 0-10 scale marking. Two current ranges are selectable: 0-10mA and 0-100mA.

The test object and output are protected by an adjustable current trip linked to the current metering range. The trip level may be set to 20-120% of the current metering range on 20% steps.

Breakdown of the test object is both audibly and visibly indicated. The alarm must be manually reset after a trip condition before testing can be resumed.

The instrument is supplied in a compact and portable case with permanently connected test leads. The test leads are terminated in clips. The unit is designed for operation in conjunction with a suitable interlocked test enclosure or high voltage test area.

The KV5-100 is one of a range of high voltage test systems available from T&R Test Equipment.

| Unit type | Voltage | Current |
|---------------------------|---------|---------|
| KV5-100 | 5kV | 100mA |
| KV15-80 | 15kV | 80mA |
| KV30-40 | 30kV | 40mA |
| KV30-100 | 30-kV | 100mA |
| KV50-100 | 50kV | 100mA |
| KV50-200 | 50kV | 200mA |
| KV100-100 | 100kV | 100mA |



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KV5-100 Specification

Output

The main output on the unit is variable between 0 and 5kVac. The output is rated at 50mA continuously and 100mA for 5 minutes followed by an off time of 15 minutes.

Metering

The output voltage is metered by an analogue instrument with 0-3kV and 0-6kV scaling.

| Range | Accuracy |
|-------|-------------|
| 3kV | ±1.5% of FS |
| 6kV | ±1.5% of FS |

The output current is metered by a dual range analogue instrument with 0-10mA and 0-100mA ranges. The current trip may be set to 20-120% of the selected range in 20% steps.

| Range | Trip Current | Accuracy |
|-------|--------------|-----------|
| 10mA | 2-12mA | ±3% of FS |
| 100mA | 20-120mA | ±3% of FS |

Overload Protection

An electronic overload protection circuit is provided on the KV5-100, backed up by a fuse. The trip current is user selectable, and allows values between 2mA and 120mA to be set. A trip condition is indicated by an illuminated push button and an audible alarm.

Burn Circuit

When in circuit, the maximum short circuit current is limited to 100mA. When out of circuit, the maximum short circuit current is approximately 2A.

Output connections

The KV5-100 is provided with battery clips for connection to the object under test. The unit is designed to be operated in conjunction with an interlocked test enclosure ensuring safety for the user.

Interlock Circuits

The unit has a zero volt interlock that prevents the output being energised unless the output control is in the zero position. An external interlock connection is also provided, allowing the fitting of external emergency off buttons and test enclosure/cage door interlocks.

Supply Requirements

115V±10% 50/60Hz 1ph 600VA max
240V±10% 50/60Hz 1ph 600VA max

Protection and Safety

The unit is protected by electronic over current and duty cycle trips on the outputs and a fuse on the mains. An earth terminal is provided for connection to a local earth.

The unit is designed to comply with BSEN61010, and is CE marked. The unit must be installed to the requirements of BS EN50191.

Temperature Range

Storage -20°C to 60°C
Operating 0°C to 45°C

Dimensions

364mm x 147mm x 262mm

Weight

16.5kg

Accessories

Operating manual, mains lead, spare fuse.

Variants

Other voltages and ratings for this unit are available as special products on request. The picture overleaf shows a KV4-300, a unit with a 4kV, 300mA rating. Units have also been supplied with a 3kV 250mA rating. If you would like a quote for your specific requirements please contact us.

Note: Due to the company's continuous research programme, the information above may change at any time without prior notification. Please check that you have the most recent data on the product.

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