TOS5101

WITHSTANDING VOLTAGE TESTER

LISTED

*This UL Listed Product is available for Inline voltage of AC 120V only.

AC/DC
10 kV
Transformer Capacity: 500 VA

Outline

The Model TOS5101 is a withstanding voltage tester having a high test voltage of 0 to 5 kV or 0 to 10 kV (transformer capacity: 500 VA) that allow both application of AC and DC. The use of a high luminance, large fluorescent display tube for the display enables data including measured values, status and judgement results to be extremely legible in comparison with previous models.

The Pass/fail function employs a window comparator method that enables TOS5101 to make fail judgement of current leakage over the upper reference value and below the lower reference value set on the front panel. Thus, highly reliable testing can be performed including that for test lead disconnection and defective contact. By employing the remote control function for start and stop operations and using this function with the judgement result output function enables greater automation and efficiency of testing.

In addition, in order to prevent erroneous operation and accidents, the TOS5101 is also equipped with a key lock function and interlock function, a high-voltage output terminal having a narrowed insertion port, a large DANGER lamp, and an automatic discharge function (during DC operation) that removes charge from the testpiece. These features give the TOS5101 a high degree of safety and reliability.

Features

- Complies with various safety standards
- AC/DC output (0 to 10 kV)
- Large color display
- Digital voltmeter and ammeter
- Digital timer
- Window comparator type employed for Pass / fail judgement.
- Equipped with remote control function
- Various signal outputs
- Automatic discharge function (during DC operation)
- Provided with zero turn-on switch
- Compact size

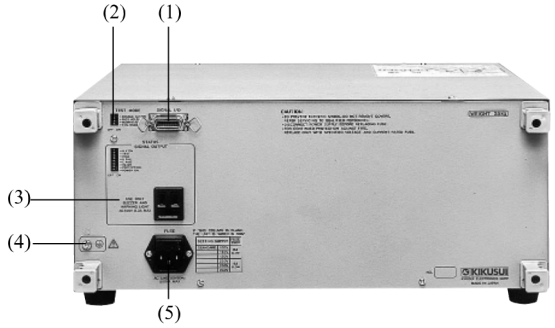
A high-luminance, fluorescent display tube is employed for display of settings, status and judgement results.

Specifications

■ Test Voltage	AC and DC
Applied Voltage	0 to 5/0 to 10 kV
Maximum Rated Output	AC: 500VA/10 kV, 50 mA (note 1) DC: 50W/10kV, 5 mA (note 1)
Wattage Rating	500 VA
Waveform	Commercial line waveform
Voltage Regulation	AC: Max. 15% (for max. rated load to no load) DC: Max. 3% (for max. rated load to no load)
Switching	Use of a zero turn-on switch
Ripple (DC)	100 Vp-p typ. at 10 kV, no load 200 Vp-p typ. at max. rated output
■ Output Voltmeter	
Scale	Analog: 10 kV full scale, AC/DC
Accuracy	Analog: ±5% of full scale Digital: ±1.5% of full scale
AC Indication	Analog: Mean value response/rms value scale
Full Scale	Digital: 5 kV/10 kV full scale
AC Response	Digital: Mean value response/rms value display
■ Ammeter	
Accuracy	Digital: ±(5% + 20μA) of upper cutoff current
AC Response	Digital: Mean value response/rms value display
■ Pass/fail Judgement Function	
Type of Judgement	Window comparator type ●FAIL judgement *When current detected above upper cutoff current *When current detected below lower cutoff current (FAIL signal generated when FAIL judgement made) ●PASS judgement *When set time has elapsed andno abnormality is detected
Upper Cutoff Current Setting Range	AC: 0.1 to 55 mA DC: 0.1 to 5.5 mA
Lower Cutoff Current Setting Range	AC: 0.1 to 55 mA DC: 0.1 to 5.5 mA
Judgement Accuracy	±(5% of upper cutoff current + 20μA)
Current Detection	Integration of current absolute value followed by comparison with reference value
Calibration	With rms value of sine wave using a pure resistance load
No-load output voltage	Approx. 970V when set to 50 mA AC Approx. 160V when set to 5 mA DC
■ Test Time Setting Range	0.5 to 999 sec (±10 ms) (timer-off function provided)
Accuracy	±20 ms
■ Signal Outputs	H.V ON - Open collector DANGER - Lamp TEST - Open collector, fluorescent display tube PASS - Open collector, fluorescent display tube, buzzer U FAIL - Open collector, fluorescentdisplay tube, buzzer L FAIL - Open collector, fluorescent display tube, buzzer READY - Open collector, fluorescent display tube PROTECTION - Open collector, fluorescent display tube STATUS SIGNAL OUTPUT 100V AC(0.3 A Max.) ☛Rating of open collector: 4.5 to 30V DC/400 mA (Max. Total)
■ Remote Control	Test and reset operations can be remote controlled in the following cases: ● When using a separately sold remote control box ● When using a separately sold high-voltage test probe ● When controlling with a make contact signal such as a relay or switch ● When using low active control by a logic device and so on
■ Interlock Function	Testing can no longer be performed when an interlock signal is input (PROTECTION state).
■ Line Voltage	100V±10%, 50/60 Hz (note 2)
■ Power Requirements	Max. 50 VA under no-load conditions Approx. 610 VA at rated load
■ EMC (note 3)	Complied with the following standards IEC61362-1: 1997-03/A1:1998-05 Electrical Equipment for Measurement, Control and Laboratory Use - EMC requirements Radiated Emissions Class A Conducted Emissions Class A IEC61000-4-2:1995-01 /A1:1998-01 Electro-static Discharge IEC61000-4-3:1995-02 Radiated, radio-frequency, electromagnetic field IEC61000-4-4:1995-01 Electrical fast transient / Burst IEC61000-4-5:1995-02 Surge IEC61000-4-6:1996-04 Conducted disturbances IEC61000-4-11:1994-06 Voltage dips, short interruptions and voltage variations Under following conditions 1. Used HV test leadwires TL03-TOS. 2. No discharge in testing.
■ Safety (note 3)	Complied with the following standards European Community Requirements (73/23/EEC) UL1244 (The UL-approved products with input voltage of 120V AC satisfy the UL1244 standerd.)
■ Dimensions (MAX)	430W × 177H × 370D mm (430W × 195H × 450D mm)
■ Weight	Approx. 21 kg (for line voltage of 100V)
■ Accessories	High-voltage test lead TL01-TOS (max. allowable voltage: 5 kV/1.5 m) High-voltage test lead TL03-TOS (max. allowable voltage: 10 kV/1.5 m) 14-pin amphenol plug (assembled)

Note 1: Continuous output time may be limited depending on current high limit reference value and ambient temperature.
Note 2: Nominal voltages of 110V, 120V, 220V, 230V and 240V available as factory options.
Note 3: CE marking are put only on the products sold in Europe.

Rear Panel



(1)Signal I/O
Input/output connectors for interlock function input/output signals, start/stop remote control input signals and status output signal.
(2)Test Mode Switch
This is a DIP switch for setting special test modes. Parameter settings such as test start and interruption operations can be changed with this switch.
(3)Status Signal Output Terminal
This is a 100V AC output terminal for operating an optional warning lamp unit or buzzer unit. Conditions during AC 100V output (status, judgement results) are set with DIP switches.
(4)Ground Terminal
(5)Line Input Terminal (integrated with fuse holder)

