

1 . GENERAL

Model TOS8630 Withstanding Voltage Tester provides a test voltage of up to 3 kV AC with an output current of 10 mA.

The instrument has remote control function of test on/off and an NG judgement function and provides an NG output contact signal, thereby greatly contributing for labor economization in withstanding voltage test. The instrument employs a zero start switching system to provide quality bumpless output waveforms even when at the instant the test voltage is turned on or off, thereby ensuring that no transiential voltage overshoots are applied to the device under test (D.U.T.). The instrument is compact and light, and is readily applicable for intermediate-point tests on manufacturing line or for tests of electronic products.

Although many safety features are incorporated in the tester, a deadly accident may occur when the operator touches the D.U.T. or the probe.

Safety guards around D.U.T. should be considered for safe operation. Also, other precaution, which deemed necessary for the tester and the devices, shall be maintained under positive control.

2. SPECIFICATIONS

Item		Specification	Remarks
Test voltage	Applied voltage	0 - 3 kV AC	
	Output	30 VA (3 kV, 10mA), when operated on 100 V AC line.	See Note 1.
	Waveform	AC line voltage waveform	
	Voltage regulation	15% or better (when change from maximum rated load to no load)	With line voltage 100 V
	Switching system	Zero start switching system	
Output Voltmeter	Scales	3 kV full scale	
	Class	JIS Class 2.5	
	Accuracy	±5% full scale	
	Response, graduation	Mean-value response, rms value graduation	
Judgement of test result (Shut down of output by leak current detection)	Judgement system	<ul style="list-style-type: none"> ○ NG judgement when current larger than the set value is detected. ○ When NG judgement is made, the output is cut out and an NG alarm is generated. 	
	Reference value	0.5, 1, 2, 5, or 10 mA	
	setting		
	Accuracy of judgement	±5% of set value	See Note 2.
	Detection system	Absolute value of leakage current is intergrated and compared with the set reference value.	
	Calibration	Calibrated for rms value of sine wave, using pure resistive load.	
	No-load output voltage needed for detection	400 V when set at 10 mA	See Note 3.

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Item	Specification	Remarks
Dimensions of casing	210 W x 140 H x 220 D mm (8.26 W x 5.51 H x 8.66 D in.)	
Maximum dimensions including extrusions	215 W x 165 H x 270 D mm (8.46 W x 6.50 H x 10.6 D in.)	
Weight (net)	Approx. 4.8 kg	See Note 4.

Note 1: The period during which the Tester can be continuously operated with its maximum rated current is up to 30 minutes.

Note 2: When an actual test is done, errors are introduced also by the currents which flows through the stray capacitances of the output circuit and measuring leadwires. The overall judging accuracy of the test is the sum of the accuracy of judgement mentioned in the above specification table plus that which is corresponding to the errors caused by the stray currents. Approximate values of these currents are as shown in the following table.

Output Voltage	1 kV	2 kV	3 kV
Main unit only (without measuring leads)	4 μ A	8 μ A	12 μ A
When 300-mm-long leads are used being suspended in air	6 μ A	12 μ A	18 μ A
When the accessory lead-wires (HTL-1.5W) are used	20 μ A	40 μ A	60 μ A

Note 3: Due to the internal resistance of the output circuit, to make NG judgement with the output terminals shorted, a certain level of no-load output voltage is needed. The value of such voltage is shown in the above table.

Note 4: Approx. 1kg increase when in line voltage modified.

Test Voltage Waveform:

When a capacitive load is connected to the AC output circuit, its voltage may become higher (depending on the capacitive component of the load) than the voltage which existed when no load is connected. Moreover, if the load is voltage-dependent (such as a ceramic capacitor), the waveform may be distorted. These effects, however, are utterly negligible when the output voltage is 3 kV and the capacitance is not greater than 0.05 μ F.

Remote control:

The test/reset operation can be remote-controlled in the following cases:

- When the Remote Control Box (optional) is used.
- When the High Voltage Test Probe (optional) is used.
- When the instrument is controlled with a make-contact of a relay or a switch.
- When low-active control is made with logic elements. The input conditions of the Tester in this case are as follows:
 - HIGH level input voltage: 11 - 15 V
 - LOW level input voltage: 0 - 4 V
 - LOW level sweepout current: 7 mA or less

Note 5: The input terminals are pulled up to +15V supply voltage by a resistor. If the input terminals are made open, the state is identical with that a HIGH level input is applied.

NG Alarm Signals:

For the NG alarm signals, the Tester provides a lamp signal, a buzzer signal, and a make-contact signal. The ratings of the make-contact signal is 100 V AC, 1 A, or 30 V DC, 1 A.

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Ambient conditions:

Temperature and humidity

to meet specified performance: 5 to 35°C (41 to 95°F), 20 to 80% RH

Operatable temperature and humidity: 0 to 40°C (32 to 104°F), 20 to 80% RH

Power Requirements:

Line voltage : 100 V \pm 10%, 50/60 Hz AC
(Can be factory-modified to nominal 110V, 115V,
120V, 200V, 220V, 230V and 240V.)

Power consumption: 10 VA or less when no load (in the reset state)
(Note 6)
Approx. 45 VA when with rated load

Insulation resistance: 30 M Ω or over, with 500 V DC

Withstanding voltage: 1000 V AC, 1 minute

Note 6: 25 VA or less when the instrument is modified to operate on an AC
line voltage other than 100 V.

Accessories:

- High Voltage Test Leadwires, HTL-1.5W 1 set
- "HIGH VOLTAGE DANGER" label 1
- Instruction Manual 1
- 5P DIN Plug (assembly type) 1

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