

**OPERATION MANUAL**

**RESISTANCE BOX/UL  
RL01-TOS**

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KIKUSUI PART No. Z1-000-682 IA000811

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## Chapter 1 GENERAL DESCRIPTION

The RL01-TOS Resistance Box is a high-voltage variable resistance device which has been designed to test the output voltage of a withstanding voltage tester (dielectric strength tester) which is to be used to verify the dielectric strengths of products on a manufacturing line, complying with the requirements of UL 1270, Appendix C and UL1492, Appendix C. The output voltage test, in effect, is an output voltage regulation test of the withstanding voltage tester.

## Chapter 2 PRECAUTIONS

### 2.1 Receiving Inspection

Immediately upon receipt of the device, inspect it for any damage which might have been sustained while in transportation. If any signs of damage are found, immediately notify your KIKUSUI agent.

### 2.2 Notes and Precautions

- (1) The RL01-TOS deals with a hazardously high voltage. In order to prevent electric shock hazards, be extremely careful when handling it.
- (2) Be sure that the protective grounding terminal ④ of the RL01-TOS, together with the protective grounding terminal of the withstanding voltage tester, is securely connected to a grounding earth line.
- (3) Be sure that the cable which runs from the withstanding voltage tester is securely connected to the INPUT connector (rectangular connector) of the RL01-TOS. Securely fix the connector with the plastic screws ⑤ to guard against disconnection.
- (4) Be sure that the LO line [LOW (GND) line] also is securely connected.

# Chapter 3 OPERATION METHOD

## 3.1 Front Panel

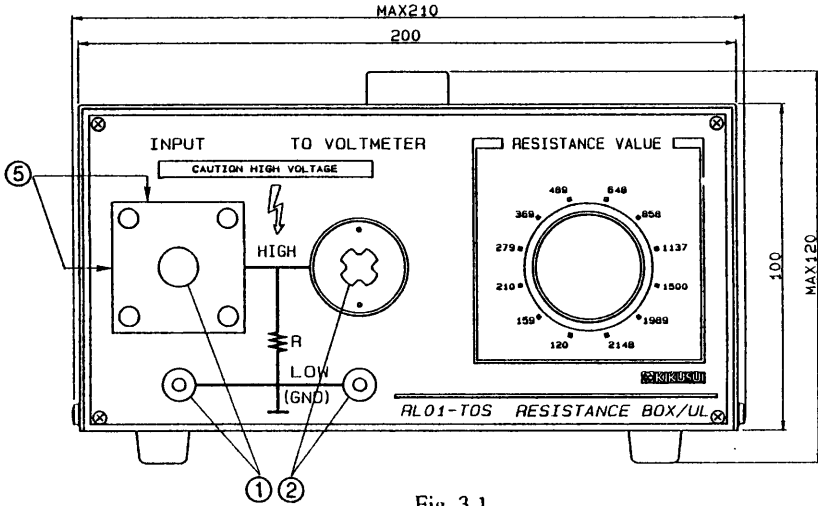


Fig. 3.1

## 3.2 Rear Panel

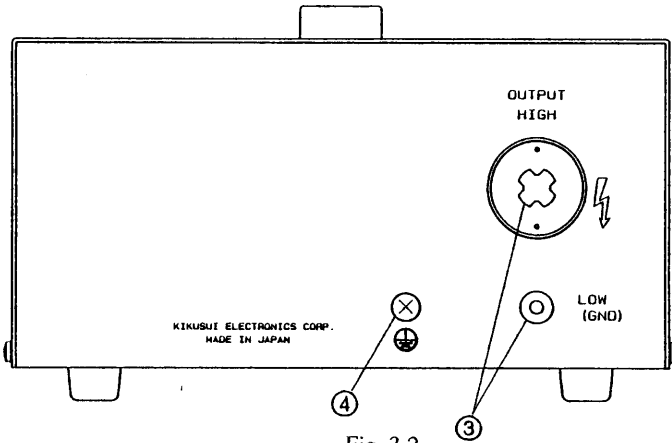


Fig. 3.2

### 3.3 Connecting Method

- (1) Connect the INPUT terminals ① shown in Figure 3.1 to the output terminals of the withstanding voltage tester.
- (2) Connect a high voltage voltmeter to the TO VOLTMETER terminals ② shown in Figure 3.1.
- (3) Connect the device to be tested to the OUTPUT terminals ③ shown in Figure 3.2.
- (4) The terminals ①, ②, and ③ are connected in parallel within the RL01-TOS. You may use terminals ② and ③ interchangeably, if such is more convenient for your use.

## Chapter 4 SPECIFICATIONS

Item	Specification												
Resistance	<p>Selectable with a rotary switch for 12 resistances.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">120 k<math>\Omega</math></td> <td style="text-align: center;">369 k<math>\Omega</math></td> <td style="text-align: center;">1,137 k<math>\Omega</math></td> </tr> <tr> <td style="text-align: center;">159 k<math>\Omega</math></td> <td style="text-align: center;">489 k<math>\Omega</math></td> <td style="text-align: center;">1,500 k<math>\Omega</math></td> </tr> <tr> <td style="text-align: center;">210 k<math>\Omega</math></td> <td style="text-align: center;">648 k<math>\Omega</math></td> <td style="text-align: center;">1,989 k<math>\Omega</math></td> </tr> <tr> <td style="text-align: center;">279 k<math>\Omega</math></td> <td style="text-align: center;">858 k<math>\Omega</math></td> <td style="text-align: center;">2,148 k<math>\Omega</math></td> </tr> </table> <p>When resistances are reduced stepwise from the maximum value to lower values, the rate of resistance reduction is not greater than 25% of the preceding value for each step of resistance change.</p>	120 k $\Omega$	369 k $\Omega$	1,137 k $\Omega$	159 k $\Omega$	489 k $\Omega$	1,500 k $\Omega$	210 k $\Omega$	648 k $\Omega$	1,989 k $\Omega$	279 k $\Omega$	858 k $\Omega$	2,148 k $\Omega$
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Resistance Accuracy	<p>When set at 120 k<math>\Omega</math>: Nominal resistance +1%, -0</p> <p>When set at other resistances: Nominal resistance <math>\pm</math>1%</p>												
Maximum Operable Voltage	1300 V (rated voltage for continuous operation)												
Short-period Overvoltage	Allowable up to 1400 V for up to 5 seconds (provided that no overvoltage recurring within 60 seconds)												
Terminals	Output terminals and voltage check terminals												
Ambient Conditions	<p>Specification range: 5 to 35°C (41 to 95°F), 20 to 80%RH</p> <p>Storage range: -20 to 70°C (-4 to 158°F), <math>\leq</math>80%RH</p>												
Dimensions of Casing	<p>200 W <math>\times</math> 100 H <math>\times</math> 260 D mm (7.87 W <math>\times</math> 3.94 H <math>\times</math> 10.24 D in.)</p> <p>Dimensions of Maximums: 210 W <math>\times</math> 120 H <math>\times</math> 300 D mm (8.27 W <math>\times</math> 4.72 H <math>\times</math> 11.81 D in.)</p>												
Weight	2.6 kg (5.7 lbs)												
Accessories	<table style="width: 100%; border: none;"> <tr> <td style="border: none;">High voltage test cables, TL04-TOS</td> <td style="border: none; text-align: right;">2 sets</td> </tr> <tr> <td style="border: none;">High voltage test cables, TL05-TOS</td> <td style="border: none; text-align: right;">1 set</td> </tr> <tr> <td style="border: none;">"DANGER! HIGH VOLTAGE" label</td> <td style="border: none; text-align: right;">1 sheet</td> </tr> </table>	High voltage test cables, TL04-TOS	2 sets	High voltage test cables, TL05-TOS	1 set	"DANGER! HIGH VOLTAGE" label	1 sheet						
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