

OPERATION MANUAL

RESISTANCE BOX/UL **RL01-TOS**



Part No. Z1-006-200, I0028602
Dec 2025

Use of Operation Manual

Please read through and understand this Operation Manual before operating the product. After reading, always keep the manual nearby so that you may refer to it as needed. When moving the product to another location, be sure to bring the manual as well.

If you find any incorrectly arranged or missing pages in this manual, they will be replaced. If the manual gets lost or soiled, a new Operation Manual can be purchased. In either case, please contact your Kikusui agent, and provide the "Kikusui Part No." given on the cover.

This manual has been prepared with the utmost care; however, if you have any questions, or note any errors or omissions, please contact your Kikusui agent.

环境保护使用期限 Environment-friendly Use Period

该标记为适用于在中华人民共和国销售的电子信息产品的环境保护使用期限。

只要遵守有关该产品的安全及使用注意事项，从制造年月起计算，在该年度内，就不会对环境污染、人身、财产产生重大的影响。

产品的废弃请遵守有关规定。

产品的制造年月可以在以下网址中确认。

<https://www.kikusui.co.jp/pi/>

产品中含有有害物质的信息可以从二维码中确认。

Information on the presence of hazardous substances in products can be confirmed from two-dimensional codes.

<https://kikusui.co.jp/crohs/2026-pb/>



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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

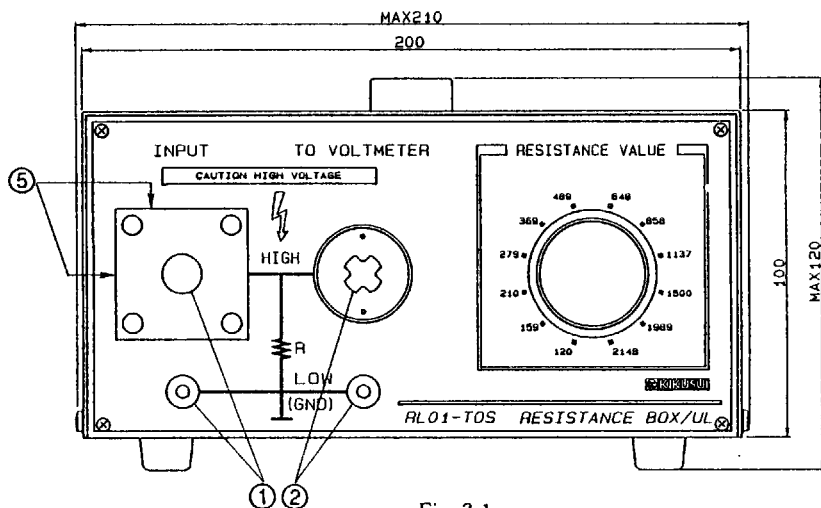


Fig. 3.1

3.2 Rear Panel

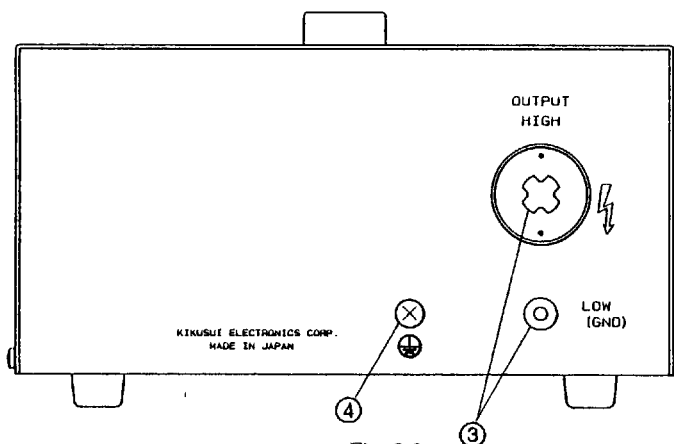


Fig. 3.2

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	Selectable with a rotary switch for 12 resistances. <table><tr><td>120 kΩ</td><td>369 kΩ</td><td>1,137 kΩ</td></tr><tr><td>159 kΩ</td><td>489 kΩ</td><td>1,500 kΩ</td></tr><tr><td>210 kΩ</td><td>648 kΩ</td><td>1,989 kΩ</td></tr><tr><td>279 kΩ</td><td>858 kΩ</td><td>2,148 kΩ</td></tr></table> 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.	120 kΩ	369 kΩ	1,137 kΩ	159 kΩ	489 kΩ	1,500 kΩ	210 kΩ	648 kΩ	1,989 kΩ	279 kΩ	858 kΩ	2,148 kΩ
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Resistance Accuracy	When set at 120 kΩ: Nominal resistance +1%, -0 When set at other resistances: Nominal resistance ±1%												
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	Specification range: 5 to 35°C (41 to 95°F), 20 to 80%RH Storage range: -20 to 70°C (-4 to 158°F), ≤80%RH												
Dimensions of Casing	200 W × 100 H × 260 D mm (7.87 W × 3.94 H × 10.24 D in.) Dimensions of Maximums: 210 W × 120 H × 300 D mm (8.27 W × 4.72 H × 11.81 D in.)												
Weight	2.6 kg (5.7 lbs)												
Accessories	High voltage test cables, TL04-TOS 2 sets High voltage test cables, TL05-TOS 1 set “DANGER! HIGH VOLTAGE” label 1 sheet												