NEW

Earth continuity tester TOS6200

Test current value: 3 to 30 A AC / Resistance value: 0.001 to 1.200Ω
Compact, lightweight, and constant current
Stores 100 test conditions in memory
Incorporates test conditions into program
●Equipped with GPIB and RS-232C interfaces as standard

KIKUSUI

JQA-1100
ISO 9001
Oscilloscopes
Withstanding Voltage Testers
Power Supply Equipment

Pursuing ease of use !
Introduction of stylish earth continuity testers !

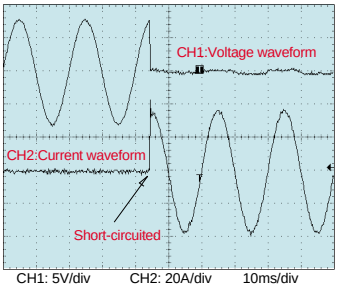
The TOS6200 tester is designed to perform the earth continuity tests required for class-I devices by safety standards such as IEC, EN, VDE, BS, JIS, and the Electrical Appliance and Material Control Law of Japan.
Equipped with a new high-efficiency power supply, it is compact and lightweight, about half the size and weight of our conventional products, while achieving a large output of 150 VA.
Use of the constant current method eliminates the need to reset test currents even in the face of fluctuating resistance values for the device being tested. The test duration can also be set from 0.3 s, making the tester suitable for production line testing, which requires reduced cycle time.
This tester is also designed for ease of use, featuring a large, easy-to-read display, memory capacity for storage of 100 types of test conditions, and incorporation of test conditions into programs to enable automatic testing. Standard GPIB and RS-232C interfaces allow the user to use PCs or other devices to control test conditions such as test current, resistance value for judgement, and test duration, and enables read-back of measured values and test results.
The tester is also provided with test leads as standard and provides high cost effectiveness.

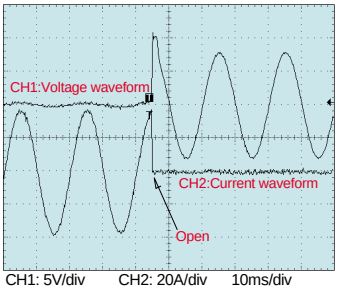
MAKING A TEST CURRENT CONSTANT

A test current for earth continuity testing has been made constant. Thus, the test current does not need to be reset even in the face of fluctuating resistance values for the device being tested.

SAFETY OUTPUT VOLTAGE

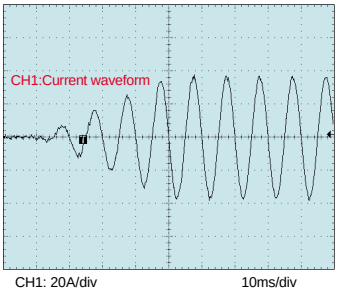
The quick-response, constant current/ constant voltage circuit does not generate excessive output voltage even when the output is interrupted during testing. It also complies with no-load output voltage limitations (6 V or less, 12 V or less, and so on) required by a number of safety standards.





REDUCED CYCLE TIME

The test current reaches a set constant current value within approximately 100 ms, allowing earth continuity tests at 1-second intervals. This enables the tester to perform in production lines that require reduced cycle times.

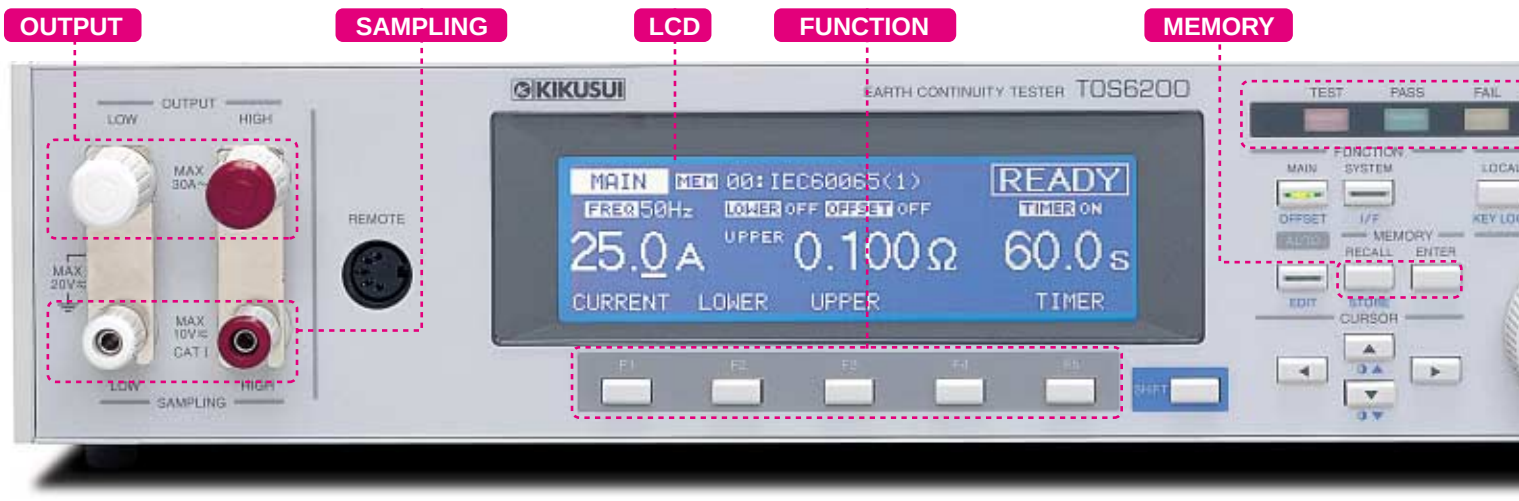


HIGH ACCURACY

The tester is equipped with an ammeter of ±(1% of reading + 0.2 A), a voltmeter of ±(1% of reading + 0.02 V), and an ohmmeter of ±(2% of reading + 0.003 Ω) that calculate resistance values based on measured current and voltage.

OFFSET CANCELING FUNCTION

The tester is provided with an offset canceling function that cancels resistance values, such as the contact resistance at alligator-clip and the resistance of measurement leads when in two terminals testing method is used.



SIMPLE OPERATIONS

Setting test conditions is easy – just select an item displayed on the LCD with the cursor keys and turn the rotary knob to set/select a value. The function keys allow you to create shortcuts to desired items.

CAPACITY TO STORE 100 TYPES OF TEST CONDITIONS IN MEMORY

The tester allows you to store up to 100 types of test conditions, such as test current, judgement resistance value, and test duration in memory under different names. For example, you can store test conditions for an applicable safety standard with the standard name, or applicable test conditions with the name of the device destination. To modify test conditions due to changes in product destination or revised safety standards, the operator can recall stored test conditions simply by setting a memory number without changing individual parameters.
Assigning specific names allows the operator to identify the recalled test conditions by name. This feature is available not only for recall operations from the front panel, but through external control.

PROGRAMMING OF TEST CONDITIONS

Combining saved test conditions into programs allows sequential testing of up to 100 steps. Although the total number of steps is limited to 500, up to 100 types of programs may be stored. These can be recalled by external control as well as from the front panel.

PROVIDED WITH A CONTACT CHECK FUNCTION

The tester has a contact check function that identifies the connection of the device being tested (by current detection) before testing.

MEMO FUNCTION

The tester has a memo function with a capacity of 60 characters of 20 digits by 3 lines. You can use it to save a serial number, calibration date, and/or comments.

EQUIPPED WITH STANDARD GPIB AND RS-232C INTERFACES

The tester comes with standard GPIB and RS-232C interfaces, allowing external control of test conditions such as test current, judgement resistance value, and test duration. It also permits read-back of measured values and test results.

SUPPLIED TEST LEADS

Test leads with alligator clips are supplied with the product.
TL11-TOS (cable length: 1.5 m)

OPTIONS

* The following options are available separately.

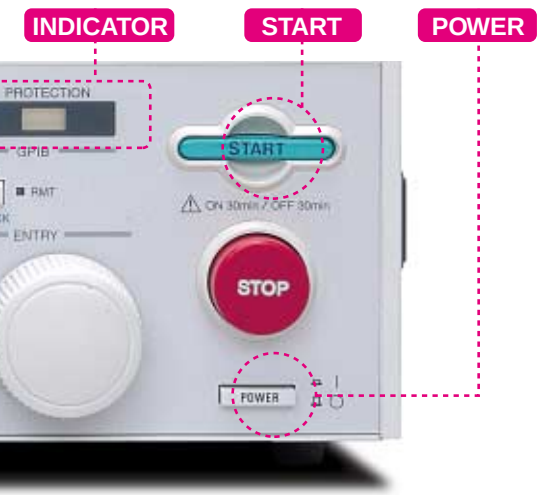
■ Remote control boxes

RC01-TOS
(one-hand type; length of supplied cable: 1.5 m)

RC02-TOS
(two-hand type; length of supplied cable: 1.5 m)

■ Test probe

LTP-2 (cable length: 2 m)



Earth continuity tester **NEW**

TOS6200

■ Test current value: 3 to 30 A AC
■ Resistance value: 0.001 to 1.200 Ω
■ Equipped with GPIB and RS-232C interfaces as standard

■REAR PANEL

① AUX (connector dedicated for TOS6200 to extend functionality)
② SIGNAL I/O (D-sub 25-pin connector)
③ GPIB
④ RS-232C

■ SPECIFICATIONS

■ Output block
- Current setting range (*1) .. 3.0 to 30.0 A AC (With respect to resistance resulting in output power of the maximum rated Output or less and an output terminal voltage of 5.4 V or less)
- Resolution 0.1A
- Accuracy ..... ± (1% of setting + 0.2A)
- Maximum rated output ... 150 VA (at the output terminals)
- Distortion factor ..... 2% or less (with respect to 0.1 Ω pure resistance load of 10 A or greater)
- Frequency ..... 50/60 Hz, sine wave (selectable)
- Accuracy ..... ±200ppm
- Open terminal voltage ... 6 Vrms or less
- Output method ..... PWM switching method

■ Output ammeter
- Measurement range ..... 0.0 to 33.0 A AC
- Resolution 0.1A
- Accuracy ..... ± (1% of reading + 0.2A)
- Response ..... Mean value response/rms value display (response time: 200 ms)
- Holding function ..... The current measured at the end of test is held during the PASS or FAIL inteval

■ Output voltmeter
- Measurement range ..... 0.00 to 6.00 V AC
- Resolution 0.01V
- Accuracy ..... ± (1% of reading + 0.02A)
- Response ..... Mean value response/rms value display (response time: 200 ms)
- Holding function ..... The voltage measured at the end of test is held during the PASS or FAIL inteval

■ Ohmmeter
- Measurement range ..... 0.001 to 1.200 Ω
- Resolution ..... 0.001 Ω
- Offset cancel function .... 0.000 to 1.200 Ω (Offset ON/OFF function provided)
- Accuracy ..... ± (2% of reading + 0.003 Ω)
- Holding function ..... The resistance measured at the end of test is held during the PASS or FAIL inteval

■ Pass/fail judgement function
- Judgement system ..... Window comparator system
  - If a resistance value equal to or greater than the upper reference value is detected, a FAIL determination is returned.
  - If a resistance value equal to or less than the lower reference value is detected, a FAIL determination is returned.
  - If a resistance value has been judged as FAIL, the tester shuts off the output and generates a FAIL signal.
  - If the set time elapses without abnormalities, the tester shuts off the output and generates a PASS signal.
- Setting range for the upper reference value (UPPER) ..... 0.001 to 1.200 Ω
- Setting range for the lower reference value (LOWER) ..... 0.001 to 1.200 Ω
- Judgement accuracy ..... ± (2% of UPPER + 0.003 Ω)
- Calibration ..... Calibration is performed with the rms value of the sine wave, using a pure resistance load.
- LED
  - PASS ..... Lights for approximately 0.2 sec when the measured value has been judged as PASS. It is lit continuously when the PASS holding time is set to HOLD.
  - UPPER FAIL ..... Lights if a resistance value equal to or greater than the upper reference value is detected and judged FAIL.
  - LOWER FAIL ..... Lights if the resistance value equal to or less than the lower reference value is detected and judged FAIL.
- Buzzer .....
  - The buzzer sounds for approximately 0.2 sec if the measured value has been judged as PASS.
  - The buzzer sounds continuously under the following condition:
    The measured value has been judged as PASS when the PASS holding time is set to HOLD.
    The measured value has been judged as UPPER FAIL.
    The measured value has been judged as LOWER FAIL.

  The buzzer volume for FAIL or PASS judgment are adjustable. Note that it cannot be adjusted individually since setting is shared with the setting for PASS.

■ Time
- Test time
  - Setting range ..... 0.3 to 999 s Timer ON/OFF function is available.
  - Accuracy ..... ± (100ppm of setting + 20ms)

■ Environment
- Installation ..... Indoors and the altitude is less than 2,000 m
- Warranty range
  - Temperature ..... 5° to 35°C
  - Humidity ..... 20% to 80% R.H (non condensing)
- Operating range
  - Temperature ..... 0° to 40°C
  - Humidity ..... 20% to 80% R.H (non condensing)
- Storage range
  - Temperature ..... -20° to 70°C
  - Humidity ..... 90% or less R.H (non condensing)

■ Power requirement
- Allowable voltage range .. 100 V model : 85 to 132 V AC
  100 V/200 V model : 85 to 132 V AC/170 to 250 V AC
- Power consumption
  - At no load (READY) ... 100 V model : 70 VA or less
    100 V/200 V model : 45 VA or less
  - At rated load ..... 100 V model : 450 VA max.
    100 V/200 V model : 330 VA max.
- Allowable frequency range ... 45 Hz to 65 Hz

■ Insulation resistance ..... 30MΩ min. (500 V dc), between AC line and chassis

■ Withstanding voltage ..... 1350 V AC (1 second), between AC line and chassis

■ Earth continuity ..... 25 A AC/0.1 Ω max.

■ Physical dimensions (maximum)
..... 430(450)W × 88(140)H × 270(345)Dmm

■ Weight ..... Approx. 9kg

■ Accessories
- AC power cord ..... 1 piece
- Test leadwire TL11-TOS .. 1 set
- Short bar ..... 2 pieces (These are inserted between the OUTPUT and SAMPLING terminals.)
- AC power fuse ..... 2 pieces (2, including one spare in the fuse holder)
- Operation manual ..... 1 copy

*1: Time limitation with respect to output

The heat-radiation capacity at the tester's output section is designed to be half that of rated output, taking into account the size, weight, cost, and other factors. The tester should be used within the limitations provided below.

Use of the tester in circumstances exceeding this limitation may cause sharp increases in the output section temperature, which may in turn trip the internal protection circuit.

Output time limitation			
Ambient temperature t (°C)	Test current I (A)	Quiescent time	Maximum test duration
t ≤ 40°	15 < I ≤ 30	Equal to or greater than test duration	30 minutes or less
	I ≤ 15	Not required	Continuous output possible

KIKUSUI ELECTRONICS CORP.
1-1-3,HIGASHIYAMATA,TSUZUKI-KU,YOKOHAMA, 224-0023, JAPAN
TEL:(+81)45-593-7570, Fax:(+81)45-593-7571
Internet:http://www.kikusui.co.jp/

●Distributor:

Printed in Japan

Issue:May.2000