

4.5 Fast Trip Test (IEE Regs 613-16)

This test is especially required for a circuit breaker fitted to lessen the hazard of electrical shock that might result from direct contact.

- (1) Set Function Switch to Fast Trip position (this will override all functions)
- (2) Press and hold down the Test Button. Regardless of the trip current selected 250mA current will pass through the circuit breaker for 40mS maximum. As on the trip test the circuit breaker trips and all lamps go out. The reading is displayed only while the Press to Test button is held down. It will display the result for approx. 10 seconds before changing.
- (3) Reset the breaker and reverse 0°/180° selector for a re-test. The breaker should trip at these two tests within 40mS. If not the breaker is probably faulty.

Kyoritsu reserves the right to change specifications or designs described in this manual without notice and without obligations.

Distributor



KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.

No. 5-20, Nakane 2-chome, Meguro-ku, Tokyo, 152-0031 Japan

Phone: +81-3-3723-0131 Fax: +81-3-3723-0152

URL: <http://www.kew-ltd.co.jp>

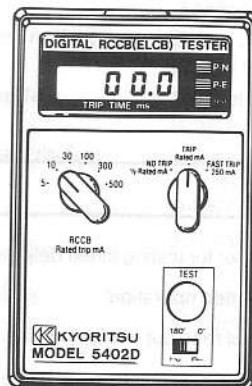
E-mail: info@kew-ltd.co.jp

© Factories: Uwajima & Ehime

92-1241B

Printed in Japan

INSTRUCTION MANUAL



Digital RCCB (ELCB) Tester
-including delay types

MODEL 5402D

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD., TOKYO, JAPAN

CONTENTS

Features	2
Specifications	3, 4
Panel and Controls	5
Operating Instructions	6, 7, 8

FEATURES

- 2000mS readout for testing latest delay action breakers.
- Fully programmed operation
- Accurate digital read out of tripping time.
- Two neon lamps give quick check for correct wiring.
- Operates from mains supply. No need for batteries
- Compact, lightweight and simple to operate.
- Zero cross circuitry permits testing at 0° and 180° portion of sine wave. At these two tests minimum (best) and maximum (worst) trip times will be displayed.
- Data hold function to freeze the digital trip time display allows for easy readout and eliminates the possibility of reading error.

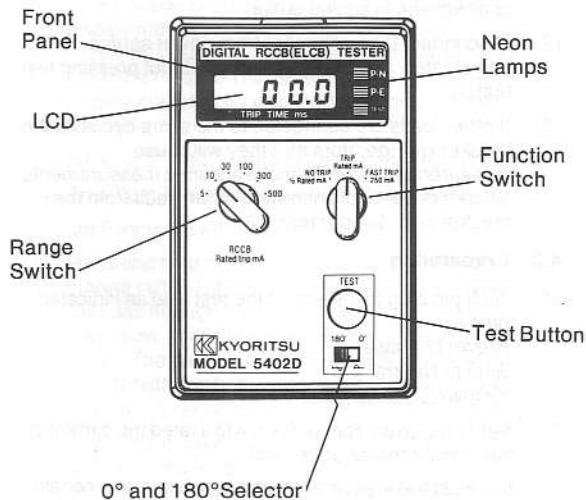
SPECIFICATIONS

Measuring Ranges

Trip Current Settings	5mA 10mA 30mA 100mA 300mA 500mA
Test Current No Trip Test	50% of circuit breaker trip current selected
Trip Test	100% of circuit break trip current selected
Fast Trip Test	250mA regardless of circuit breaker trip current selected
Fault Trip Time	2000mS (40mS for Fast Trip)
Operational Voltage	220V 230V 240V AC $\pm 10\%$ 50/60Hz
Accuracy	
Test Current	$\pm 3\%$ at 220V 230V 240V AC
Test Current Duration	2000mS $\pm 5\%$ for Trip and No Trip Tests
(limiter incorporated)	40ms $\pm 5\%$ for Fast Trip Test
Trip Time (Measurement Accuracy)	$\pm 2\%$ reading ± 3 digit

Operating Temperature Range		0°C – 40°C
Dimensions	LWD	140 × 90 × 20mm
Weight		350g
Accessories included		Test Leads, Carrying Case Instruction Manual

PANEL AND CONTROLS



OPERATING INSTRUCTIONS

4.1 Warning

- (1) Do not press Test Button unless both P-N and P-E lamps are illuminated with the power supply on and the instrument connected to the breaker (this would normally be via a socket outlet located nearest the breaker). If the lamps are not lit, damage to the instrument will not result, but it could be hazardous to the operator. Therefore, turn power supply off and check the connections to socket outlet.
- (2) Disconnect the instrument from power source immediately if test lamp goes on without pressing test button.
- (3) If other loads are connected to the same circuit as the breaker (refrigerators etc) they will cause measurement error. To make accurate measurements disconnect all appliances and other loads from the breaker circuit under test.

4.2 Preparation

- (1) Fit 3 pin plug to the end of the test lead as indicated below:
Brown to Phase
Blue to Neutral
Yellow/Green to Earth
- (2) Set Trip Current Range Switch to a rated trip current of the circuit breaker under test.
- (3) Connect the instrument to the breaker; make certain that both P-E and P-N lamps are illuminated. If not disconnect the instrument and check wiring at socket or distribution board for a possible fault.

4.3 No Trip Test (guard against nuisance tripping)

- (1) Set Function Switch to No Trip position
- (2) Press and hold down the Test Button.

A half (50%) of the rated trip current selected will pass through the breaker for 2000mS.

The breaker should not trip at this test. This is checked by the continued illumination of the P-N and P-E lamps. The no trip current sensitivity of the breaker is now tested OK.

If the breaker should trip because of a fault the display reads the trip time with P-N, P-E and test lamps extinguished. The reading is displayed only while the Press to Test button is held down. It will display the result for approx. 10 seconds before changing.

- (3) Reverse 0°/180° selector position and repeat step (2)

4.4 Trip Test (correct operation of breaker)

- (1) Set Function Switch to Trip position
- (2) Press and hold down the Test Button. The rated trip current (100%) of the circuit breaker current selected will pass through the circuit breaker for 2000mS maximum. At this test the breaker trips and all lamps go out. The reading is displayed only while the Press to Test button is held down. It will display the result for approx. 10 seconds before changing.
- (3) Reset the breaker and reverse 0°/180° selector position for a re-test. The trip time displayed will be different from the readout on the preceding test. The circuit breaker should trip within the trip time specified for the breaker at its rated current.
- (4) If the breaker does not trip the P-N and P-E lamps will remain illuminated.