

ROI RED PHASE INSTRUMENTS

MODEL 704 C.T. CIRCUIT BURDEN TESTER



BRIEF DESCRIPTION

The Model 704 provides a simple, quick and cost effective way of measuring the burden of the secondary of a C.T. that is in service.

This is achieved by using a Clipon C.T. to measure the customer load current and two clip leads to measure the voltage across the C.T. terminals.

The result is displayed on the display in Ohms.

The instrument is housed in a small handheld case, the size of a typical multimeter, and is battery powered. The necessary leads and clipon is supplied.

The accuracy of measurement is dependent on the level of customer current as the major source of error is the low level performance of the clipon.

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1.0. MODEL 704 SPECIFICATION

1.1. INPUTS

The 704 uses a Model 3028 clipon, with 2000T secondary. This gives a maximum output of 5mA at 1A input.

The clipon is clamped around the secondary conductor of a C.T.

The current input ranges are for a nominal 5A and 1A C.T.

The clipon has an overload rating of 100A for 1 minute.

An "OVERLOAD" LED is illuminated whenever inputs exceed the maximum ratings

The voltage input is taken from across the secondary terminals of a C.T. The maximum input within the measuring range is 50V. The overload rating is 200V for 1 minute.

1.2. DISPLAY

Display type – 12.7mm high, 3½ digit, LCD.

"5A" range:

Maximum input 5.5V, 5.5A for nominal 1 Ohm, at reduced inputs can display maximum of 1.999 Ohms.

"5A" + "LOW" range:

Maximum input 0.55V, 0.55A for nominal 1 Ohm, at reduced inputs can display maximum of 1.999 Ohms.

"1A" range:

Maximum input 50V, 5.5A for nominal 10 Ohms, at reduced inputs can display maximum of 19.99 Ohms.

"1A" + "LOW" range:

Maximum input 5.5V, 5.5A for nominal 1 Ohm, at reduced inputs can display maximum of 1.999 Ohms.

1.3. MEASUREMENT ACCURACY (percentage of reading):

5A C.T. range.

Burden error 1% at 5A / 5V

Burden error 2% at 0.5A / 0.5V

Burden error 5% at 0.1A / 0.1V

with "LOW" key pressed:

Burden error 1.5% at 0.5V / 0.5V

Burden error 3% at 0.05A / 0.05V

Burden error 5% at 0.01A / 0.01V

1A C.T. range.

Burden error 1% at 5A / 50V

Burden error 2% at 0.5A / 5V

Burden error 5% at 0.1A / 1V

with "LOW" key pressed:

Burden error 1.5% at 5A / 5V

Burden error 3% at 0.5A / 0.5V

Burden error 5% at 0.1A / 0.1V

Current measurement in "5A C.T." range only:

Current error 1% at 5A

Current error 3% at 0.5A

Current error 5% at 0.1A

1.4 BATTERY SUPPLY

The unit is powered by 4 "AA" size alkaline cells mounted in a battery compartment and easily accessible for replacement. Current drain is typically 20 mAmps

Battery life is typically 50 – 80 hours to a battery voltage of 4.5V.

One powered up, the unit times out automatically after 3 minutes.

If not used for extended periods, it is recommended that the batteries be removed

1.5 ENCLOSURE

The unit is housed in a fully moulded light weight ABS hand-held enclosure. The front panel is covered with polycarbonate for durability and appearance.

1.6 SIZE AND WEIGHT

100 x 206 x 40mm.

Total weight (including test lead / clipon) is 0.7 kgs.

2. OPERATING INSTRUCTIONS

2.1 Connect test lead to Model 704. Secure voltage clips across secondary of C.T. Clamp clipon around C.T. secondary cable.

2.2 Power up unit by pressing either the "5A" or "1A" key. The respective range is also selected.

2.3 While in the "5A" range, press and hold the "AMPS" key to read the secondary current.

2.4 Release the "AMPS" key to read the burden of the C.T. secondary circuit in Ohms.

2.5 If the current or voltage is low and the Burden readout is erratic, select the appropriate range for best accuracy and then press and hold the "LOW" key for a few seconds to display the burden at the increased sensitivity.

Every care has been taken to ensure that the above data is correct at the time of printing. Always refer to the latest data sheet when purchasing. RED PHASE INSTRUMENTS reserves the right to alter specifications without notice.