

KEWTECH

KTD30

Digital

Insulation and Continuity Tester

User Manual



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The Kewtech KTD30 Continuity Insulation Tester is designed for use by suitably qualified personnel familiar with electrical supply systems.



Caution

Before using your KTD30 please read these instructions; in particular note the safety issues that follow:

Your tester is for use on dead circuits only. Although your Kewtech instrument is fully protected against accidental connection to a live circuit it is essential to check the circuit is dead before working on it.

Your tester is equipped with a very convenient auto test (hands free) feature but do not touch the lead tips when using this feature.

There may be capacitance on the circuit being tested (a longer than normal test time will indicate this condition). Your tester will automatically discharge this but do not disconnect the test leads until this auto discharge has completed.

On the subject of test leads, always check for damaged leads or croc clips - Kewtech replacement lead sets are inexpensive and easy to obtain.

The continuity circuit is fuse protected against accidental connection to mains (unlikely as there will be a warning to indicate a live circuit) - if this fuse does blow replace it with the correct type F 500mA fast blow ceramic 500V. It is located inside the battery compartment.

CE BS EN 61010-1

Batteries

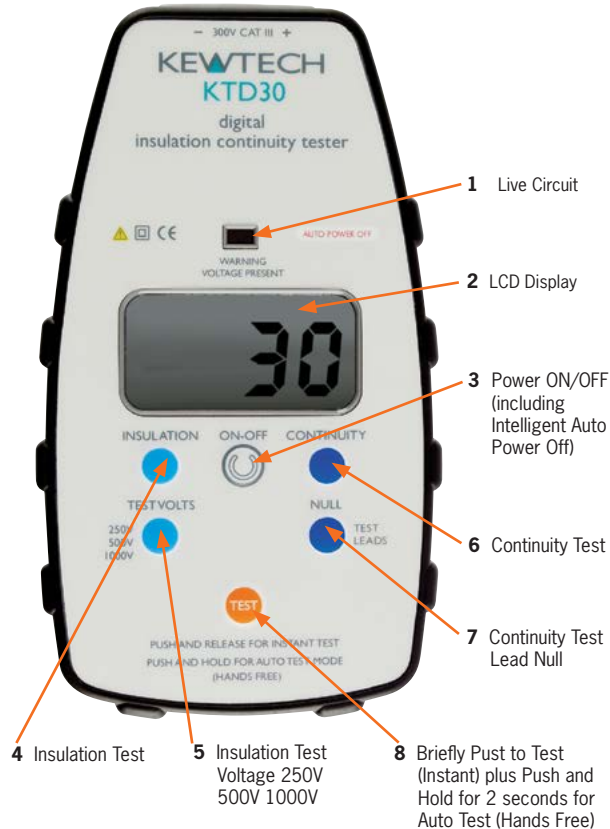
Because of storage issues your tester is not supplied with batteries.

ALWAYS REMOVE THE TEST LEADS BEFORE REPLACING BATTERIES.

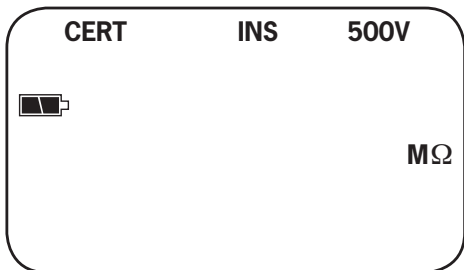
Just 4 AA cells are required (alkaline recommended). The battery compartment is at the back of the instrument, remove the screw (do not lose it) – slide the battery cover off and carefully insert the batteries observing correct polarity. Replace cover and fix screw back in. 4 good quality AA alkaline cells should give 5000 tests at 500V DC.

Note: Access to the protective fuse is also gained through the battery compartment. Always replace with the correct type – F 500mA Fast Blow Ceramic 500V.

Operation – a Detailed View of the KTD30




- LIVE CIRCUIT WARNING** If this is alright – DO NOT PROCEED you are connected to a live circuit. This useful indicator will also show if a (capacitive) circuit under test is fully discharged before disconnecting any test leads.
- LCD Display. When power up (Power ON/OFF) is selected your Kewtech KTD30 will default to symbols CERT, INS, 500V this means it is ready to perform a 500V insulation test in Certification mode and it will do this test when you briefly press button 8.



This is how the display will look when you first power up the instrument.

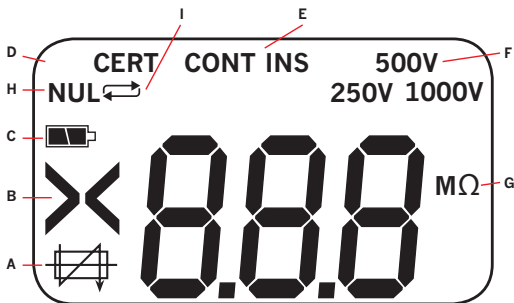
- Power ON/OFF – Pressing and releasing this button turns the KTD30 on – holding down for longer than 2 seconds turns the unit off (plus Auto Power Off is incorporated).
- This button selects Insulation Testing Mode (your KTD30 defaults to Insulation Test 500V DC on Power On).
- This allows selection of insulation test voltage 250V DC for SELV and PELV circuits 500V DC (default) for circuits up to and including 500V and 1000V for circuits above 500V
(SELV = Separated Extra-Low Voltage. PELV = Protective Extra-Low Voltage).
- Selects Continuity Test Mode.
- Continuity Test Lead NULL – In order to give accurate continuity resistance results your tester will record the resistance of the test leads – store it and automatically subtract the stored value from any continuity measurement being made. To NULL the leads hold the test lead tips together very firmly with one hand and press the NULL Button – the result will be displayed – continuity testing will then subtract this stored value whenever Test Button 8 is pressed – the value is reset to zero after Power OFF (or Auto Power OFF) is selected.



8 The Push To Test Button performs two functions:

A brief push (less than one second) initiates the test and automatically captures the result (which stays on screen until the next test, Power OFF or Mode change). For Auto Test the button is held down for longer than 2 seconds at which point  is displayed in the LCD – you now have Hands Free – when the probes are touched onto any two test points your KTD30 will carry out an automatic test and capture the result for as long as the probes are held in contact.

A brief push on the Test button unlocks Hands Free mode.

Overview of the Display



- A** Fuse Broken DO NOT PROCEED
- B** > Greater Than / < Less Than
- C** Battery Condition  = good.  = 1/2. Flashing = replace.
- D** TestMode – CERT – Certification
- E** Measuring Mode – INS – Insulation or CONT – Continuity
- F** Insulation DC Volts Test Voltage – 250 – 500-1000V DC
- G** Measuring Units – MΩ – Insulation – Ω – Continuity
- H** Null Function – (Continuity only) Nulls and stores Ohms value of the test leads for the testing session you are in (automatically resets to zero on switch off)
- I** AutoTest (Hands Free) Selected

Continuity Test Ranges

Accuracy (Cert mode)	
Ranges (Auto Range)	Tolerance (@ 20°C)
0.00 to 9.99 Ω	$\pm 3\% \pm 2$ digits
10.0 to 99.9 Ω	$\pm 3\% \pm 2$ digits
100 to 999 Ω	$\pm 3\% \pm 2$ digits
Open Circuit Voltage	>4V, <10V
Short Circuit Current	>200mA
Zero offset Adjust (Test Lead Null)	2 Ω
Typical Test Time (Cert mode) (2 Ω)	<2 sec

Power

4 × AA alkaline batteries (not included)

Battery Life (BS EN 61557) > 5000 tests @ 500V test voltage

Environmental

Operating Temperature Range	0°C to 40°C
Storage Temperature Range	-10°C to 60°C
Size	157mm × 89mm × 39mm
Weight	400g

Insulation Test Ranges

Accuracy (Cert mode)		
Test Voltage	Ranges (Auto Range)	Tolerance (@200C)
250V	0.01 to 9.99M Ω	$\pm 3\%$ ± 1 digit
	10.0 to 99.9M Ω	$\pm 3\%$ ± 1 digit
	100 to 199M Ω	$\pm 6\%$ ± 1 digit
500V	0.01 to 9.99M Ω	$\pm 3\%$ ± 1 digit
	10.0 to 99.9M Ω	$\pm 3\%$ ± 1 digit
	100 to 199M Ω	$\pm 3\%$ ± 1 digit
	200 to 499M Ω	$\pm 6\%$ ± 1 digit
1000V	0.01 to 9.99M Ω	$\pm 3\%$ ± 1 digit
	10.0 to 99.9M Ω	$\pm 3\%$ ± 1 digit
	100 to 399M Ω	$\pm 3\%$ ± 1 digit
	400 to 999M Ω	$\pm 6\%$ ± 1 digit

Output Voltage

Voltage	Load	Output Current	Tolerance
250	250k Ω	1 mA	-0% +20%
500	500k Ω	1 mA	-0% +20%
1000	1M Ω	1 mA	-0% +20%
Short circuit current (in to 2k Ω)			<2mA
Typical Test Time (cert mode) (10M Ω)			<2 sec



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