

Thank you for purchasing a Sealey product. Manufactured to a high standard this product will, if used according to these instructions and properly maintained, give you years of trouble free performance.

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. PLEASE KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.

1. SAFETY INSTRUCTIONS

1.1. PERSONAL PRECAUTIONS

- ✓ When using this meter, please observe all normal safety rules concerning:
 - Protection against the dangers of electric current.
 - Protection of the meter against misuse.
- x **DO NOT** use leads if damaged or if the wire is exposed in any way.

1.2. GENERAL SAFETY INSTRUCTIONS

- ✓ Familiarise yourself with the application and limitations of the meter as well as the potential hazards. *IF IN ANY DOUBT CONSULT A QUALIFIED ELECTRICIAN.*
- ✓ Before use, verify the meter's operation by measuring a known voltage.
- ✓ Before changing functions, disconnect test leads from the circuit under test.
- ✓ Connect the test lead before connecting the test probe. When disconnecting, remove the test probe first.
- ☐ **WARNING!** *Disconnect circuit power and discharge all high-voltage capacitors before testing resistance, diode or continuity.*
- ✓ Use proper function and range for the measurement.
- ✓ Before operating the "Select" switch, disconnect the leads and test probes from the circuit under test.
- ☐ **WARNING!** *Never perform resistance measurements on live circuits.*
- ✓ Always be careful when working with voltages above 60Vdc or 30Vac rms. Keep your fingers behind the probe barriers while measuring.
- ☐ **WARNING! CATII-Measurement.** Category II is for measurements performed on circuits directly connected to low-voltage supply. (Examples are measurements on domestic appliances, portable tools etc.). **DO NOT** use the meter to measure within Measurement Categories III and IV.
- x **DO NOT** use the meter around explosive gas, vapour or dust.
- ✓ Remove the test lead and probe from a circuit before opening the battery compartment.
- x **DO NOT** operate the meter with the battery cover removed.
- ✓ When not in use, store the meter carefully in a safe, dry, childproof location. Storage temperature range - 10°C to 50°C.
- ☐ **WARNING!** The warnings, cautions and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood that common sense and caution are factors which cannot be built into this product, but must be applied by the operator.

2. FEATURES

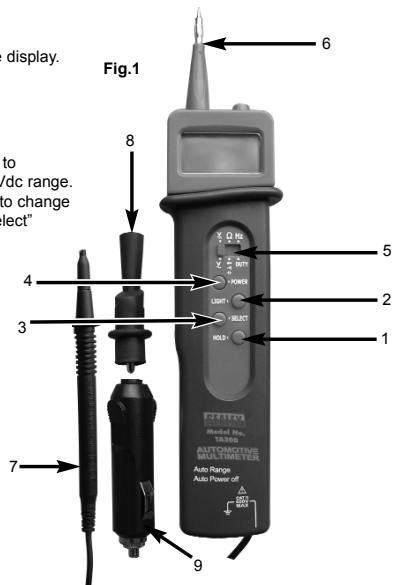
Features 3-1/2 digit, 10mm LCD display, data hold, auto ranging, over-range protection and indication, auto-power-off and spotlight. Measures AC and DC voltages, resistance, capacitance, frequency and duty cycle and has diode and continuity test functions. Supplied with crocodile clip, cigarette lighter plug, two probes, probe guard and 1.3m cable.

- . Autorange.
- . Overrange protection for all ranges.
- . The maximum, permitted voltage between any terminal and ground: 600Vdc/ac rms.
- . Display:LCD.
- . Polarity indication: "-" for negative polarity.
- . Overrange indication: "OL" or "-OL".
- . Sampling time:0.4 second.
- . Auto-power-off:15 minutes without operation.
- . Power supply:1.5V X 2 AAA.
- . Low battery indication: " " on display.
- . Operating temperature:0°C - 40°C.
- . Storage temperature:-10°C - 50°C.



Item Description (Fig.1)

1. **"HOLD"** button.
After "Hold" button is pressed, the present reading will be held in the display.
2. **"LIGHT"** button.
To enable spotlight function, press "Light" button.
To disable, press the "Light" button again.
3. **"SELECT"** button.
When meter is in the Vdc range press the "Select" button to change to the Vac range, press "Select" again and the meter will return to the Vdc range. When the meter is in the resistance range press the "Select" button to change to diode range. Press "Select" again, for continuity range. Press "Select" again for capacitance range.
When the meter is in frequency range, press the "Select" button for duty cycle.
4. **"POWER"** button.
The "Power" button is used for switching the meter on.
Press "Power" again to turn the meter off.
5. **"FUNCTION"** switch.
Use "Function" switch to select between Vac, Vdc, resistance, capacitance, frequency, duty cycle, continuity test, audible continuity and diode test.
6. **Test probe.** (+Test Probe)
7. **Test lead.** (-Test Lead)
8. **Crocodile clip.**
9. **Cigarette lighter adaptor.**



3. SPECIFICATION

Accuracy is specified for a period of one year after calibration and at $23 \pm 5^\circ\text{C}$ with relative humidity up to 75%. Accuracy specifications take the form of:
 \pm (% of Reading + number of least significant digits).

DC VOLTAGE		
Range	Resolution	Accuracy
400mV	0.1mV	$\pm (0.8\%+4)$
4V	1mV	
40V	10mV	
400V	100mV	
600V	1V	$\pm (1\%+4)$

Input impedance: 10 Ω

RESISTANCE		
Range	Resolution	Accuracy
400 Ω	0.1 Ω	$\pm (1.2\%+2)$
4k Ω	1 Ω	
40k Ω	10 Ω	$\pm (1\%+2)$
400k Ω	100 Ω	
4M Ω	1k Ω	$\pm (1.2\%+2)$
40M Ω	10k Ω	$\pm (1.5\%+2)$

Overload protection: 250Vdc or rms ac

FREQUENCY	
Range	Accuracy
9.999Hz	$\pm (1.5\%+4)$
99.99Hz	
999.9Hz	
9.999kHz	
99.99kHz	
999.9kHz	
10MHz	

Input voltage range: 0.5 - 50 Vp-p

DIODE		
Range	Resolution	
	1mV	Open-circuit Voltage: About 1.5V. Forward voltage: About 0.5 - 0.8V

AC VOLTAGE		
Range	Resolution	Accuracy
4V	1mV	$\pm (0.8\%+6)$
40V	10mV	
400V	100mV	
600V	1V	$\pm (1.2\%+6)$

Input impedance: 10M Ω

Frequency response: 40 - 400Hz

CAPACITANCE		
Range	Resolution	Accuracy
4nF	1pF	$\pm (25\%+5)$
40nF	10pF	
400nF	100pF	$\pm (10\%+5)$
4 μ F	1nF	
40 μ F	1nF	
100 μ F	100nF	

Overload protection: 250Vdc or rms ac

DUTY CYCLE		
Range	Resolution	Accuracy
0.1% - 99%	0.01%	$\pm (2.5\%+4)$

Input voltage range: 0.5 - 50 Vp-p

CONTINUITY	
	If < 50 Ω , the buzzer will sound

Note: When the resistance is between 50 Ω and 120 Ω , the buzzer may or may not sound. When the resistance is more than 120 Ω , the buzzer will not sound.

4. OPERATION

4.1. MEASURE VOLTAGE

- 4.1.1. Set the function switch in $V\text{---}/A\text{---}$ position, press "SELECT" button to select Vdc or Vac measuring mode.
- 4.1.2. Connect the test lead and test probe across the source or circuit to be measured.
- 4.1.3. Read the reading.

NOTE! The max. permitted voltage is 600Vac/dc rms.

The meter may show an unsteady reading when the test lead and test probe are not in contact with the circuit to be measured, this is normal because the meter's sensitivity is very high. When the test lead and test probe touch the circuit to be measured, the display will show the true reading.

4.2. MEASURING RESISTANCE

- 4.2.1. Set the function switch in the " Ω " position.
- 4.2.2. Connect the test lead and test probe across the circuit to be measured.
- 4.2.3. Read the reading.

NOTE! When the measured resistance is more than $1M\Omega$, it will take several seconds for the reading to be steady.

When the test lead and test probe are open, the display will show "OL" for overload indication.

Before you measure in-circuit resistance, ensure that the power supply has been switch off and all the capacitors have been fully discharged.

4.3. TESTING DIODE

- 4.3.1. Set the function switch in " \blacktriangleright " position.
- 4.3.2. Press the "SELECT" button to set the meter in diode range.
- 4.3.3. Connect the test probe to the anode of the diode and the black test lead to the cathode of the diode.
- 4.3.4. Read the reading.

NOTE! The display will show the approximate value of the forward-voltage drop of the diode. If you connect the test probe and test lead across the diode in the wrong direction, the display will show "OL".

4.4. TESTING FOR CONTINUITY

- 4.4.1. Set the function switch in " ⦿ " position.
- 4.4.2. Press the "SELECT" button to set the meter in " ⦿ " range.
- 4.4.3. Connect the test probe and test lead across the circuit to be measured.
- 4.4.4. If $< 50\Omega$, the buzzer will sound.
- 4.4.5. Read the reading.

4.5. MEASURING CAPACITANCE

- 4.5.1. Set the function switch in " —|— " position.
- 4.5.2. Press the "SELECT" button to set the meter in capacitance range.
- 4.5.3. Connect the test probe and test lead across the capacitor to be measured.
- 4.5.4. Read the reading.

NOTE! When you measure a high-voltage capacitor, it will take several seconds for reading to steady (30 seconds for 100mF range).

4.6. MEASURING DUTY CYCLE

- 4.6.1. Set the function switch in "DUTY" position.
- 4.6.2. Press the "SELECT" button to set the meter in duty cycle range.
- 4.6.3. Connect the test probe and test lead across the source or load to be measured.
- 4.6.4. Read the reading.

4.7. MEASURING FREQUENCY

- 4.7.1. Set the function switch in "Hz" position.
- 4.7.2. Press the "SELECT" button to set the meter in Hz range.
- 4.7.3. Connect the test probe and test lead to the signal to be measured.
- 4.7.4. Read the reading.

4.8. AUTO POWER-OFF

- 4.8.1. When idle, the meter will automatically power off and give 5 short beeps and one long beep. If you move the function switch or press "HOLD" or "SELECT", the meter will turn on.

5. MAINTENANCE

5.1. BATTERY REPLACEMENT

5.1.1 To replace the batteries, remove the screw from the battery compartment cover, replace the old batteries with new batteries of the same type, replace the cover and reinstall the screw.

NOTE: Pay attention to the polarity of the new batteries, do not reverse them, otherwise the unit will be damaged. Only use the specified batteries: 2 x 1.5V AAA.

❑ **WARNING! DO NOT** attempt to repair or service your meter unless you are qualified to do so and have the relevant calibration, performance test, and service information. To avoid electrical shock or damage to the meter do not get water inside the case.

5.2. Periodically wipe the case with a damp cloth and mild detergent. Do not use solvents.

5.3. Turn the meter off when not in use and remove the batteries if stored for a long period of time.

5.7. Do not store the meter in a place of high humidity or high temperature.

Available Parts.

Item	Part No.	Description
1.	TA300.01	Lighter Clip
2.	TA300.02	Probe
3.	TA300.03	Crocodile Clip



Environmental Protection.



Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycle centre and disposed of in a manner which is compatible with the environment.



When product is no longer required, it must be disposed of in an environmentally protective way. Do not incinerate battery as it may explode when exposed to fire. Do not attempt to open battery.

Declaration of Conformity We, the sole UK importer, declare that the product listed below is in conformity with the following standards and directives.

AUTOMOTIVE PEN PROBE DIGITAL METER

MODEL: TA300

2006/95/EC Low Voltage Directive
2004/108/EC EMC Directive
93/68/EEC CE Marking Directive
2002/95/EC RoHS Directive
2002/96/EC WEEE Directive



The construction file for this product is held by the Manufacturer and may be inspected, by a national authority, upon request to Jack Sealey Ltd.

Signed by Tim Thompson

31st August 2007

For Jack Sealey Ltd. Sole UK importer of Sealey Professional Tools.

NOTE: It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

IMPORTANT: No liability is accepted for incorrect use of this equipment. **WARRANTY:** Guarantee is 12 months from purchase date, proof of which will be required for any claim. **INFORMATION:** For a copy of our latest catalogue and promotions call us on 01284 757525 and leave your full name and address, including postcode.



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