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BT300P

12V Battery Tester with Printer

USER MANUAL

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English

WELCOME

Thank you for purchasing TOPDON Battery Tester BT300P. Please patiently read and understand this User Manual before operating this product. If you have any questions or issues, please contact us via support@topdon.com for technical support.

ABOUT

Applying the most advanced conductance testing technology and the reverse polarity protection etc., TOPDON BT300P serves as a 12V Battery Tester with printer. It can test the vehicle battery's CCA value, cranking system and charging system easily, quickly and accurately, providing the information about the vehicle battery's health. In addition, it supports cranking test and charging test for 24V batteries.

WHAT'S INCLUDED

1. TOPDON Battery Tester BT300P

2. User Manual

COMPATIBILITY

Please be noted that battery type and CCA values (Cold Cranking Amp) marked on the battery label. Please refer to it before using.
BT300P supports the following types:
Regular Flooded/GEL/AGM/EFB

SPECIFICATIONS

Working Voltage: DC 9V~30V

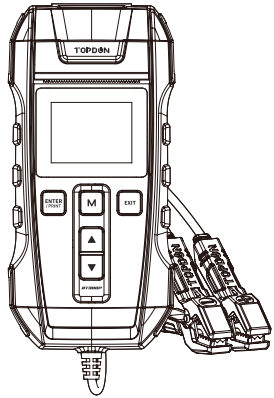
Working Temperature: -10°C~55°C (14°F~131°F)

Storage Temperature:-20°C~75°C (-4°F~167°F)

Dimension: 8.19*3.94*1.49 inches

Weight: 16.76 oz

PRODUCT OVERVIEW



Buttons	Operation
▲	Page up, or increase the battery rating values
▼	Page down, or decrease the battery rating values
EXIT	Return to the previous page/ Main Menu
ENTER/PRINT	Confirm; Enter and proceed/Print
M	Main Menu
Red Clamp	Positive clamp
Black Clamp	Negative clamp

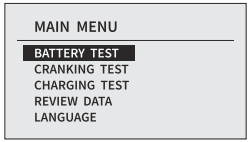
HOW TO USE

1. Battery Test (12V Only)
TOPDON BT300P will test each battery according to the selected actual system standard and rating marked on the battery, to get the accurate results.

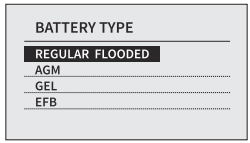
1.1 Before Test
The engine and all other accessory loads must be OFF in order to have accurate results. Turn on the vehicle headlamps for 2~3 minutes until the battery voltage drops back to normal value if the battery is just fully charged.

1.2 Steps
1) The RED (+) Positive Battery Clamp is connected to the (+) positive battery terminal, and the BLACK (-) Negative Battery Clamp is connected to the (-) negative battery terminal. Ensure that the clamps have a firm, secure grip on the battery terminals for accurate results.

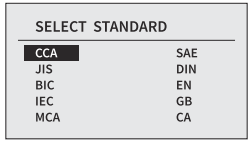
2) The device will jump to main menu automatically after 3 seconds, select "BATTERY TEST" and then press "ENTER/PRINT" to continue.



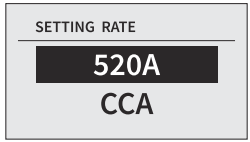
3) Press "▲" or "▼" to select the "BATTERY TYPE" (specified on the battery rating label), then press "ENTER/PRINT" to continue.



4) Press "▲" or "▼" to select the correct testing standard (specified on the battery rating label), then press "ENTER/PRINT" to continue.

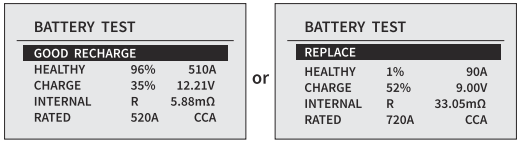


5) Hold "▲" or "▼" to select the battery rating values (specified on the battery rating label).



6) Press "ENTER/PRINT" to start the battery test.

7) The test result is as follows:



2. Cranking Test (12V&24V)

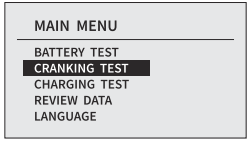
2.1 Before Test

The engine and all other accessory loads must be OFF before test in order to have accurate results.

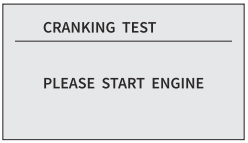
2.2 Steps

1) The RED (+) Positive Battery Clamp is connected to the (+) positive battery terminal, and the BLACK (-) Negative Battery Clamp is connected to the (-) negative battery terminal. Ensure that the clamps have a firm, secure grip on the battery terminals for accurate results.

2) The device will jump to main menu automatically after 3 seconds, then select "CRANKING TEST":

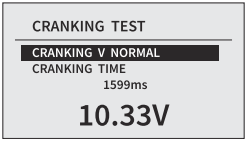


3) Press "ENTER/PRINT" to enter the "CRANKING TEST" interface, start the engine according to the prompts.

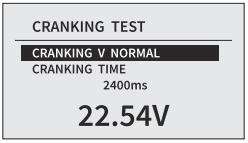


4) The result will show as below:

For 12V Battery



For 24V Battery



3. Charging Test (12V&24V)

3.1 Before Test

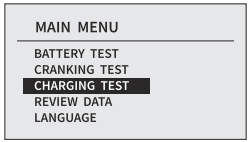
The engine must be ON during test in order to have results. Ensure all electrical accessories and devices remain in the OFF state.

*Turning ON/OFF any electrical accessories in the vehicle during the test will affect the accuracy of the test result.

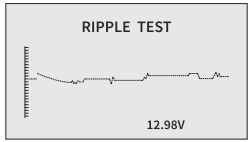
3.2 Steps

1) The RED (+) Positive Battery Clamp is connected to the (+) positive battery terminal, and the BLACK (-) Negative Battery Clamp is connected to the (-) negative battery terminal. Ensure that the clamps have a firm, secure grip on the battery terminals for accurate results.

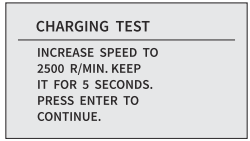
2)The device will jump to main menu automatically after 3 seconds, then select "CHARGING TEST":



3) Press "ENTER/PRINT" to enter the "RIPPLE TEST" interface:

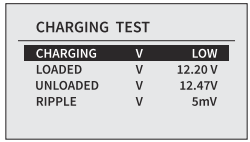


4) Press "ENTER/PRINT" again, or wait for a few seconds to enter the "CHARGING TEST" interface:

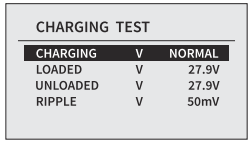


5) The tester prompts the operator to “Increase RPM to 2500r/min and keep it 5 seconds”. Press "ENTER/PRINT" to get the test result:

For 12V battery



For 24V Battery



Reference Table (for 12V battery)

Status	Battery Voltage	Engine Performance
Headlamps & A/C OFF (Depress Accelerator)	13.2V~15.0V	Normal
	12.9V~13.2V	General
	12.7V~12.9V	Attention
	<12.7V	Inspection ASAP
Headlamps & A/C ON (Depress Accelerator)	13.3V~14.6V	Normal
	13.1V~13.3V	Attention
	<13.1V	Inspection ASAP

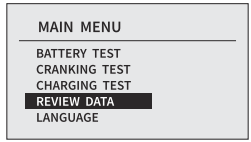
Reference Table (for 24V battery)

Status	Battery Voltage	Engine Performance
Headlamps & A/C OFF (Depress Accelerator)	>27.8V	Normal
	26.4V~27.8V	General
	26.0V~26.4V	Attention
	<26V	Inspection ASAP
Headlamps & A/C ON (Depress Accelerator)	26.8V~29.2V	Normal
	25V~26.8V	Attention
	<25V	Inspection ASAP

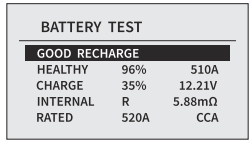
*For reference only. Battery problems can also affect the data.

4. Review Data

1) Press the "M" key to enter the boot interface, after 3 seconds the system will enter main menu automatically, and select the "REVIEW DATA":



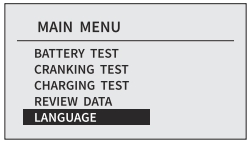
2) Press "ENTER/PRINT" into the "REVIEW DATA" interface:



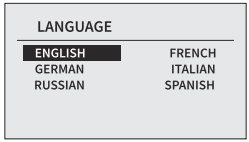
* Only the last test result will be displayed.

5. Language

1) Press the "M" key to enter the main menu, after 3 seconds the system will enter main menu automatically, and select the "LANGUAGE".



2) Press "ENTER/PRINT" into the "LANGUAGE" interface, select your preferable language.

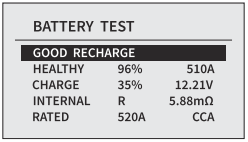


* If the "EXIT" key is invalid during the test, please remove the battery clamps and reconnect them.

6. Print Test Report

TOPDON BT300P is designed with the test report printing function, which enable customers more convenient to record and recheck the value.

1) After a test, the result will show as below:



2) Press "ENTER/PRINT" buttons to print and wait for 2-3 seconds, the result will be printed.

*Please note that the printer only works when the battery's voltage is above 9.5V.

BATTERY SYSTEM STANDARD DESCRIPTION

The battery tester analyzer will test each battery according to the selected system and rating.

CCA	Cold Cranking Amps, specified by SAE & BCI, most frequently used value for starting battery at 0°F(-18°C)
BCI	Battery Council International standard
CA	Cranking Amps standard,effective starting current value at 0°C
MCA	Marine Cranking Amps standard,effective starting current value at 0°C
JIS	Japan Industrial Standard, displayed on the battery as combination of the numbers and letters, e.g. 55D23,80D26
DIN	German Auto Industry Committee Standard
IEC	International Electrotechnical Commission Standard
EN	European Automobile Industry Association Standard
SAE	Society of Automotive Engineers Standard
GB	China National Standard

MEASURING RANGE

The Battery Tester can perform test on batteries rated within 100-2000CCA/30Ah-220Ah.

Measure Standard	Measure Range
CCA	100-2000
BCI	100-2000
CA	100-2000
MCA	100-2000
IEC	100-1400

Measure Standard	Measure Range
JIS	26A17-245H52
DIN	100-1400
EN	100-2000
SAE	100-2000
GB	30-220Ah

WARNINGS

• DO NOT place the tester near the engine or exhaust pipe to avoid damage by high temperatures, when the car engine is running.

• DO NOT smoke, cause sparks, or strike matches near the battery when testing.

• DO NOT remove battery clamps while testing.

• DO NOT put the tester into a highly humid, dusty environment.

• DO NOT disassemble the tester, or may cause damage.

FCC Warnings:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

CAUTIONS

• Use this tester in accordance with these instructions, taking into account the working conditions and the work to be performed.

• Before testing, make sure the battery terminals are really clean as grease and dust could lead to errors in the test results.

• Wear eye protection when working around batteries.

• Check the insulation layer of the battery clamps is in normal condition (no damage, bareness or disconnection), in case of the electric shock.

• Test in a well-ventilated area. Explosive and toxic gases may be produced during testing.

• Keep hair, hands, and clothing as well as tester leads and cords away from moving blades and belts.

• The tester is not a toy. Keep it out of the reach of children.

WARRANTY

TOPDON One Year Limited Warranty
The TOPDON Company warrants to its original purchaser that TOPDON products will be free from defects in material and workmanship for 12 months from the date of purchase (Warranty Period). For the defects reported during the Warranty Period, TOPDON will, according to its technical support analysis and confirmation, either repair or replace the defective part or product.

The TOPDON shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device. Some states do not allow limitation on how long an implied warranty lasts, so the above limitations may not apply to you.

This limited warranty is void under the following conditions:
Misused, disassembled, altered or repaired by a non-TOPDON technical repair specialist.

Careless handling and violation of operation.

Notice:All information in this manual is based on the latest information available at the time of publication and no warranty can be made for its accuracy or completeness.

Topdon reserves the right to make changes at any time without notice.

FAQ

Q: Can BT300P test the battery installed in the vehicle?
A: Yes, it supports in-vehicle and out-of-vehicle testing.

Q: Is the test result accurate?
A: Yes. Our BT300P features advanced conductance detection giving you accurate test results in seconds.

Q: What batteries can BT300P work on?
A: It works on 12V regular flooded, AGM Flat plate, AGM Spiral, GEL and Deep Cycle batteries, with CCA between 100 to 2000.

Q: Is BT300P designed with any built-in protections?
A: Yes. It offers peace of mind with extra-safe Reverse Polarity and Sparkproof protection, and easy operations even if you're new to battery testing.

Q: Can BT300P test 12V solar battery?
A: If your solar battery bank is made up of lead-acid cells, then yes.

Q: How do I confirm if my vehicle battery is bad or good?
A: The battery tester will display SOH (State of Health), SOC (State of Charge), CCA (Cold Cranking Ampere), Voltage, Internal Resistance, and Rating, with an intuitive test result of "GOOD" or "BAD" for your reference.If the internal resistance is too large, it indicates a broken battery.

Q: Can this battery tester estimate the remaining capacity of my battery?
A: Yes.The battery tester will display SOC (State of Charge) to express as a percentage of your battery's rated capacity, a measure of its condition to assess the potential energy.

Note that a decent SOC (State of Charge) doesn't mean the battery is in good condition. You need to refer to your battery's actual CCA Value and Internal Resistance for further analysis.