

ADS9908 Auto Battery Analyzer

User manual

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<http://www.adsscan.com>

Before you start

- The analyzer is designed to test 12/24 volt automotive batteries. It can not be used for other batteries.
- A freshly charged battery will show a higher voltage than normal voltage; if this is the case, switch on the headlights for two or three minutes to allow the voltage to stabilize.
- Always connect directly to the leads of the battery terminals; connection to a remote post or vehicle ground will affect test result.
- There are two functions of this tester (there into System Test includes three items):

Battery Test

System Test

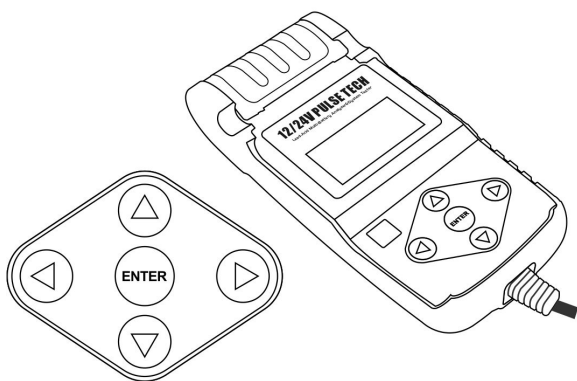
| |
|--|
| <ul style="list-style-type: none"> Start System Test Charging System Test ALT.LOAD Test |
|--|

Battery Suitability

This Battery Tester is suitable for batteries of the following capacity rating standards and ranges: (This information is normally found on a sticker on top of the battery.)

- **CCA** --- 100~1700
- **IEC** --- 100~1000
- **EN** --- 100~1700
- **JIS** --- refer to the conversion table for CCA figures
- **DIN** --- 100~1000
- **?** --- If rating standard and range is unknown, please select "?". Testing result will show SOC (state of charge) and internal resistance but no the SOH (state of health).

Caption for image:



Use **Up** and **Down** keys to scroll between functions and selections.

(**Up** also used for return to previous menu and exit program)

Left key and **Right** key are used for adjusting number.

Enter key is used for selection and confirmation.

Instructions

Preparation before the Test

Before connection the tester, clean the battery posts or side terminals with a wire brush and a mixture of baking soda and water.

IMPORTANT: Do not test a steel bolts. Failure to install terminal adapters or installing terminal adapters that are worn or dirty may result in inaccurate test results. To avoid damage, never use a wrench to tighten the adapters more than 1/4 turn.

If you are testing in the vehicle, make sure all accessory loads are off, the key is not in the ignition, and the doors are closed.

Connecting the Tester

- Connect the red clamp to the positive (+) terminal and the black clamp to the negative (-) terminal.
- For a proper connection, rock the clamps back and forth. The tester requires that both sides of each clamp be firmly connected before testing.
- The preferred test position is at the battery terminals. If the battery is not accessible, you may test at the jumper post; however, the available power measurement may be lower than the actual value.

Change System Language:

1. Select **Language**, and press **Enter**.
2. Chose language by **U** and **D** keys then press **Enter** to confirm and return to main menu.
3. The tester will record the last selected language automatically.

Battery Test:

1. Vehicle's ignition is switched OFF and all electrical equipment is OFF.
2. Select Battery Test then press **Enter**.
3. If the battery voltage capacity is too low, the tester will display a warning; it is recommended to charge the battery to achieve an accurate assessment of the battery condition. Press **Enter** to continue.
4. Select the battery capacity rating standard; there is a choice of five capacity rating standards---refer to Battery Suitability --- the information is normally found on a sticker on top of the battery. Press **Enter** to continue.
5. Select the battery capacity rating (e.g. 500CCA); use **L** and **R** keys to decrease or increase the capacity rating in steps of 5 at a time. Press **Enter** to continue --- this will start the test.

The results will be shown on the screen:

Voltage

SOC: 12.76V ↑↓

■■■■■■■■■■ 96% State of charge

SOH: 687CCA Measured cranking current

■■■■■■■■■■ 100% State of health

IR: 3.93mΩ ↑↓

STATUS: GREAT

PRINT? Y / N

State of Health (Battery Condition)

| Battery Condition | Test result displayed | Advice |
|-------------------|-----------------------|---|
| SOH > 80% | Great | Battery in peak condition |
| SOH 61%~80% | Good | Serviceable / good |
| SOH 45%~60% | Caution | Poor condition --- will need replacement soon |
| SOH < 45% | Suggest Replace | Replace battery |

6.

Select if you want to print, Y to confirm, N to exit.

System Test

1. Vehicle's ignition is switched OFF
2. Select System Test, press **Enter**.
3. Following the instruction on the screen, turn off all loads and start engine (the tester will skip automatically).
4. Start voltage and result will be displayed.
5. Press **Enter** to continue and press **Enter** again to start Charging System Test.
6. Confirming all loads is off and press **Enter** to continue.
7. Idling charging voltage and result will be displayed.
8. Press **Enter** to continue.
9. Following the instruction on the screen, turn on all loads and bring engine to 2500rpm.
Then press **Enter** to continue.
10. Ripple voltage and result will be displayed. Press **Enter** to continue.
11. Alt. load voltage and result will be displayed. Press **Enter** to continue.
12. Following the instruction on the screen, turn off engine and all loads.
13. Press **Enter** to finish testing and return to main menu.
14. Select if you want to print, Y to confirm, N to exit.

Maintenance

Adjusting the date and time:

- Press and hold **UP** key **then** connect the tester to a suitable battery.
- Use **Left** and **Right** keys to select the parameter, then use the **Up** and **Down** keys to change. Press the **Enter** key when finished.

Replacing the Thermal Paper Roll:

1. To get access to paper roll, lift the paper cover up from tester.



2. Put a new roll into the tester.



3. Pull out the head of paper and put it under the black rubber roller.



4. Close the paper cover back.



Appendix: The Conversion Tables Of Battery Size Range

Table 1

| EN and DIN Conversion Tables | | | | | | | | | |
|------------------------------|-----------|--------|-----|-----|---------------|-----------|--------|-----|-----|
| Specification | | | CCA | | Specification | | | CCA | |
| Type | Same Type | | DIN | EN | Type | Same Type | | DIN | EN |
| 52805 | 52815 | | 180 | 240 | 56420 | 56322 | 88066 | 300 | 510 |
| 53517 | | | 175 | 300 | 56530 | 56618 | 56638 | 300 | 510 |
| 53520 | 53521 | 53522 | 150 | 240 | 56618 | 56619 | 56620 | 300 | 510 |
| 53625 | 53638 | 53836 | 175 | 300 | 56633 | 56647 | 56641 | 300 | 510 |
| 53646 | 53621 | 88038 | 175 | 300 | 56820 | 56821 | | 315 | 540 |
| 53653 | 53624 | 53890 | 175 | 300 | 57024 | 57029 | | 315 | 540 |
| 54038 | 54039 | | 175 | 300 | 57113 | 57539 | | 400 | 680 |
| 54232 | | | 175 | 300 | 57114 | 56821 | 88074 | 400 | 680 |
| 54313 | 54324 | 54464 | 220 | 330 | 57218 | 57219 | | 420 | 720 |
| 54317 | 54312 | 88146 | 210 | 360 | 57220 | 57217 | | 420 | 720 |
| 54437 | 54466 | 54459L | 210 | 360 | 57230 | | | 380 | 640 |
| 54459 | 54434 | 88046 | 210 | 360 | 57412 | 57413 | 57412L | 400 | 680 |
| 54469 | 54449 | 54465 | 210 | 360 | 57512 | 57513 | 57531 | 350 | 570 |
| 54519 | 54533 | 54612 | 210 | 360 | 58515 | 58424 | | 450 | 760 |
| 54523 | 54524 | | 220 | 300 | 57521 | 58513 | | 320 | 540 |
| 54537 | 54545 | 54801 | 190 | 300 | 58522 | 58514 | | 320 | 540 |
| 54551 | 54580 | | 220 | 300 | 58815 | 58821 | | 395 | 640 |
| 54533 | 54577 | 54579 | 220 | 300 | 58820 | 58515 | 58527 | 395 | 640 |
| 54584 | 54578 | | 220 | 300 | 58827 | | | 400 | 640 |
| 54590 | | | 210 | 330 | 58838 | 58833 | 88092 | 400 | 640 |
| 54827 | | | 240 | 360 | 59040 | 59017 | 59018 | 360 | 600 |
| 55040 | 88056 | | 265 | 450 | 59218 | 59219 | | 290 | 480 |
| 55041 | 55042 | | 220 | 360 | 59226 | 59215 | | 450 | 760 |
| 55044 | 55414 | 88056 | 265 | 450 | 59514 | | | 320 | 540 |
| 55046 | | | 300 | 510 | 59518 | 59519 | | 395 | 640 |
| 55056 | | | 320 | 540 | 59615 | 59616 | | 360 | 600 |
| 55057 | 54827 | 88156 | 320 | 540 | 60018 | 30019 | | 250 | 410 |
| 55068 | 55069 | 55548 | 220 | 390 | 60026 | 58811 | | 440 | 720 |
| 55218 | | | 255 | 420 | 60044 | 60038 | | 500 | 760 |
| 55414 | 55415 | 55421 | 265 | 450 | 60527 | 60528 | | 410 | 680 |
| 55422 | 55566 | 55040 | 265 | 450 | 61017 | 61018 | | 400 | 680 |
| 55428 | 55423 | 55427 | 300 | 510 | 61023 | 62529 | | 450 | 760 |
| 55457 | | | 265 | 450 | 61047 | 61048 | | 450 | 760 |
| 55529 | | | 220 | 360 | 62034 | 62038 | 62045 | 420 | 680 |
| 55531 | 55545 | 55559L | 255 | 420 | 63013 | | | 470 | 680 |
| 55559 | 55530 | 88056 | 255 | 420 | 63545 | 63549 | | 420 | 680 |
| 55564 | 55552 | 55563 | 255 | 420 | 64020 | 64317 | 64318 | 325 | 550 |

| | | | | | | | | | |
|-------|-------|--------|-----|-----|-------|-------|-------|-----|------|
| 55564 | 55565 | 55548 | 255 | 420 | 64028 | 64035 | | 520 | 760 |
| 55570 | 55567 | 55565L | 255 | 420 | 64036 | | | 460 | 760 |
| 56012 | | | 230 | 390 | 64317 | 64318 | 64323 | 540 | 900 |
| 56048 | 56068 | 56069 | 250 | 390 | 65513 | | | 540 | 900 |
| 56049 | 56069 | 56073 | 250 | 390 | 65514 | 65515 | | 570 | 900 |
| 56077 | 56530 | | 300 | 510 | 67043 | 67045 | | 600 | 1000 |
| 56091 | 55800 | | 360 | 540 | 68032 | 68034 | | 600 | 1000 |
| 56111 | 55048 | | 300 | 540 | 70029 | 70038 | 70027 | 630 | 1050 |
| 56218 | 55092 | | 300 | 510 | 70036 | 68040 | 68021 | 570 | 950 |
| 56219 | 56216 | | 300 | 510 | 71014 | 71015 | | 700 | 1150 |
| 56220 | | | 280 | 510 | 72512 | | | 680 | 1150 |
| 56225 | 56323 | | 300 | 510 | 73011 | | | 740 | 1200 |
| 56318 | 56312 | 56311 | 300 | 510 | | | | | |

Table 2

| JIS Specification Conversion tables of batteries | | | | | | | | | |
|--|-----------|-----|-----|-----|---------------|-----------|-----|-----|-----|
| Specification | | CCA | | | Specification | | CCA | | |
| JIS(New) | JIS(Old) | | MF | CMF | JIS(New) | JIS(Old) | | MF | CMF |
| 26A17R | | 200 | | | 55B24LS | NT80-S6LS | 430 | 420 | 500 |
| 26A17L | | 200 | | | 55D26R | N50Z | 350 | 440 | 525 |
| 26A19R | 12N24-4 | 200 | 220 | 264 | 55D26L | N50ZL | 350 | 440 | 525 |
| 26A19L | 12N24-3 | 200 | 220 | 264 | 60D23R | | 520 | | |
| 28A19R | NT50-N24 | 250 | | | 60D23L | | 520 | | |
| 28A19L | NT50-N24L | 250 | | | 65D23R | | 420 | 540 | 580 |
| 32A19R | NX60-N24 | 270 | 295 | | 65D23L | | 420 | 540 | 580 |
| 32A19L | NX60-N24L | 270 | 295 | | 65D26R | NS70 | 415 | 520 | 625 |
| 26B17R | | 200 | | | 65D26L | NS70L | 415 | 520 | 625 |
| 26B17L | | 200 | | | 65D31R | N70 | 390 | 520 | 630 |
| 28B17R | | 245 | | | 65D31L | N70L | 390 | 520 | 630 |
| 28B17L | | 245 | | | 70D23R | 35-60 | 490 | 540 | 580 |
| 28B19R | NS40S | 245 | | | 70D23L | 25-60 | 490 | 540 | 580 |
| 28B19L | NS40LS | 245 | | | 75D23R | | 500 | 520 | 580 |
| 32B20R | NS40 | 270 | | | 75D23L | | 500 | 520 | 580 |
| 32B20L | NS40LS | 270 | | | 75D26R | F100-5 | 490 | | |
| 32C24R | N40 | 240 | 325 | 400 | 75D26L | F100-5L | 490 | | |
| 32C24L | N40L | 240 | 325 | 400 | 75D31R | N70Z | 450 | 540 | 735 |
| 34B17R | | 280 | | | 75D31L | N70ZL | 450 | 540 | 735 |
| 34B17L | | 280 | | | 80D23L | | 580 | | |
| 34B19R | NS40ZA | 270 | 325 | 400 | 80D23R | | 580 | | |
| 34B19L | NS40ZAL | 270 | 325 | 400 | 85B60K | | | | 500 |
| 36B20R | NS40Z | 275 | 300 | 360 | 85BR60K | | | | 500 |
| 36B20L | NS40ZL | 275 | 300 | 360 | 85D26R | | 630 | | |
| 36B20RS | NS40ZS | 275 | 300 | 360 | 85D26L | | 630 | | |

| | | | | | | | | | |
|---------|-----------|-----|-----|-----|---------|-----------|------|------|------|
| 36B20LS | NS40ZLS | 275 | 300 | 360 | 95D31R | NX120-7 | 620 | 660 | 850 |
| 38B20R | NX60-N24 | 330 | 340 | 410 | 95D31L | NX120-7L | 620 | 660 | 850 |
| 38B20RS | NT60-N24S | 330 | 340 | 410 | 95E41R | N100 | 515 | 640 | 770 |
| 38B20L | NX60-24L | 330 | 340 | 410 | 95E41L | N100L | 515 | 640 | 770 |
| 38B20LS | NX60-24LS | 330 | 340 | 410 | 105E41R | N100Z | 580 | 720 | 880 |
| 40B20L | | 330 | | | 105E41L | N100ZL | 580 | 720 | 880 |
| 40B20R | | 330 | | | 105F51R | N100Z | 580 | | |
| 42B20R | | 330 | | | 105F51L | N100ZL | 580 | | |
| 42B20L | | 330 | | | 115E41R | NS120 | 650 | 800 | 960 |
| 40B20RS | | 330 | | | 115E41L | NS120L | 650 | 800 | 960 |
| 40B20LS | | 330 | | | 115F51R | N120 | 650 | 800 | 960 |
| 46B24R | NS60 | 325 | 360 | 420 | 115F51L | N120L | 650 | 800 | 960 |
| 46B24L | NS60L | 325 | 360 | 420 | 130E41R | NX200-10 | 800 | | |
| 46B24RS | NS60S | 325 | 360 | 420 | 130E41L | NX200-10L | 800 | | |
| 46B24LS | NS60LS | 325 | 360 | 420 | 130F51R | | | 800 | |
| 46B26R | | 360 | | | 130F51L | | | 800 | |
| 46B26L | | 360 | | | 145F51R | NS150 | 780 | 920 | |
| 46B26RS | | 360 | | | 145F51L | NS150L | 780 | 920 | |
| 34B19RS | NS40ZAS | 270 | 325 | 400 | 145G51R | N150 | 780 | 900 | 1100 |
| 34B19LS | NS40ZALS | 270 | 325 | 400 | 80D26R | NX-110-5 | 580 | 280 | 630 |
| 46B26LS | | 360 | | | 80D26L | NX110-5L | 580 | 280 | 630 |
| 48D26R | N50 | 280 | 360 | 420 | 145G51L | N150L | 780 | 900 | 1100 |
| 48D26L | N50L | 280 | 360 | 420 | 150F51R | NT200-12 | 640 | | |
| 50D20R | | 310 | 380 | 480 | 150F51L | NT200-12L | 640 | | |
| 50D20L | | 310 | 380 | 480 | 165G51R | NS200 | 935 | 980 | |
| 50D23R | 85BR60K | 500 | | | 165G51L | NS200L | 935 | 980 | |
| 50D23L | 85B60K | 500 | | | 170F51R | NX250-12 | 1045 | | |
| 50B24R | NT80-S6 | 390 | | | 170F51L | NX250-12L | 1045 | | |
| 50B24L | NT80-S6L | 390 | | | 180G51R | NT250-15 | 1090 | | |
| 50D26R | 50D20R | | 370 | | 180G51L | NT250-15L | 1090 | | |
| 50D26L | 50D20L | | 370 | | 195G51R | NX300-51 | 1145 | | |
| 55D26R | | 355 | 480 | 500 | 195G51L | NX300-51L | 1145 | | |
| 55D23L | | 355 | 480 | 500 | 190H52R | N200 | 925 | 1100 | 1300 |
| 55B24R | NX100-S6 | 435 | 420 | 500 | 190H52L | N200L | 925 | 1100 | 1300 |
| 55B24L | NX100-S6L | 435 | 420 | 500 | 245H52R | NX400-20 | 1530 | 1250 | |
| 55B24RS | NT80-S6S | 430 | 420 | 500 | 245H52L | NX400-20L | 1530 | 1250 | |