

5275

LASER[®]

Battery Tester With Printer

Instructions



Guarantee

If this product fails through faulty materials or workmanship, contact our service department direct on: **+44 (0) 1926 818186**. Normal wear and tear are excluded as are consumable items and abuse.

**TOOL
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The Complete Connection

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Automotive Battery Tester with Printer

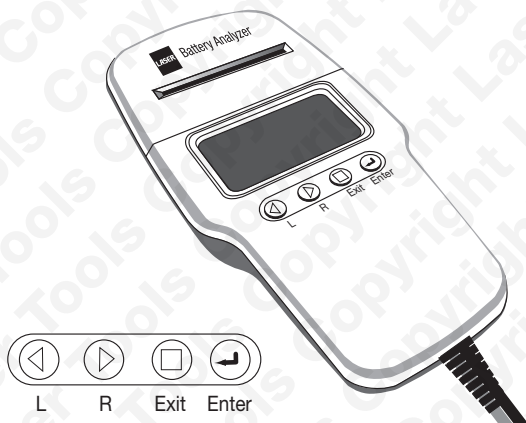
Before You Start:

- The analyser is designed to test 12 volt automotive batteries.
- A freshly charged battery will show a higher than normal voltage; if this is the case, switch on the headlights for two or three minutes to allow the voltage to stabilise.
- Always connect directly to the leads of the battery terminals; connection to a remote post or vehicle ground will affect test result.
- There are four test functions:
 - o **Battery Test**
 - o **Charging System Test**
 - o **Start System Test**
 - o **Maximum Load Test**
- Test results can be printed off using the inbuilt printer; the date and time of the test are recorded on the print-off.
- Spare paper rolls are available under Laser Tools part no: 5283

Battery Suitability:

The Laser Battery Tester 5275 is suitable for batteries using 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, the tester will show SOC (state of charge), internal resistance and the measured voltage but not the SOH (state of health).



Caption for image:

Use **L** and **R** keys to scroll between functions and selections.

Use **Exit** key to go back or cancel input.

Use **Enter** key to select and confirm.

Battery Specifications & Conversion Tables

Table 2 - Japanese Industrial Specification

JIS Specification Conversion tables of batteries									
Specification		CCA			Specification		CCA		
JIS(New)	JIS(Old)		MF	CMF	JIS(New)	JIS(Old)		MF	CMF
40B20L		330			105F51R	N100Z	580		
40B20R		330			105F51L	N100ZL	580		
42B20R		330			115E41R	NS120	650	800	960
42B20L		330			115E41L	NS120L	650	800	960
40B20RS		330			115F51R	N120	650	800	960
40B20LS		330			115F51L	N120L	650	800	960
46B24R	NS60	325	360	420	130E41R	NX200-10	800		
46B24L	NS60L	325	360	420	130E41L	NX200-10L	800		
46B24RS	NS60S	325	360	420	130F51R			800	
46B24LS	NS60LS	325	360	420	130F51L			800	
46B26R		360			145F51R	NS150	780	920	
46B26L		360			145F51L	NS150L	780	920	
46B26RS		360			145G51R	N150	780	900	1100
34B19RS	NS40ZAS	270	325	400	80D26R	NX-110-5	580	280	630
34B19LS	NS40ZALS	270	325	400	80D26L	NX110-5L	580	280	630
46B26LS		360			145G51L	N150L	780	900	1100
48D26R	N50	280	360	420	150F51R	NT200-12	640		
48D26L	N50L	280	360	420	150F51L	NT200-12L	640		
50D20R		310	380	480	165G51R	NS200	935	980	
50D20L		310	380	480	165G51L	NS200L	935	980	
50D23R	85BR60K	500			170F51R	NX250-12	1045		
50D23L	85B60K	500			170F51L	NX250-12L	1045		
50B24R	NT80-S6	390			180G51R	NT250-15	1090		
50B24L	NT80-S6L	390			180G51L	NT250-15L	1090		
50D26R	50D20R		370		195G51R	NX300-51	1145		
50D26L	50D20L		370		195G51L	NX300-51L	1145		
55D26R		355	480	500	190H52R	N200	925	1100	1300
55D23L		355	480	500	190H52L	N200L	925	1100	1300
55B24R	NX100-S6	435	420	500	245H52R	NX400-20	1530	1250	
55B24L	NX100-S6L	435	420	500	245H52L	NX400-20L	1530	1250	

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JIS(New)	JIS(Old)		MF	CMF	JIS(New)	JIS(Old)		MF	CMF
26A17R		200			55B24RS	NT80-S6S	430	420	500
26A17L		200			55B24LS	NT80-S6LS	430	420	500
26A19R	12N24-4	200	220	264	55D26R	N50Z	350	440	525
26A19L	12N24-3	200	220	264	55D26L	N50ZL	350	440	525
28A19R	NT50-N24	250			60D23R		520		
28A19L	NT50-N24L	250			60D23L		520		
32A19R	NX60-N24	270	295		65D23R		420	540	580
32A19L	NX60-N24L	270	295		65D23L		420	540	580
26B17R		200			65D26R	NS70	415	520	625
26B17L		200			65D26L	NS70L	415	520	625
28B17R		245			65D31R	N70	390	520	630
28B17L		245			65D31L	N70L	390	520	630
28B19R	NS40S	245			70D23R	35-60	490	540	580
28B19L	NS40LS	245			70D23L	25-60	490	540	580
32B20R	NS40	270			75D23R		500	520	580
32B20L	NS40LS	270			75D23L		500	520	580
32C24R	N40	240	325	400	75D26R	F100-5	490		
32C24L	N40L	240	325	400	75D26L	F100-5L	490		
34B17R		280			75D31R	N70Z	450	540	735
34B17L		280			75D31L	N70ZL	450	540	735
34B19R	NS40ZA	270	325	400	80D23R		580		
34B19L	NS40ZAL	270	325	400	80D26L		580		
36B20R	NS40Z	275	300	360	85B60K				500
36B20L	NS40ZL	275	300	360	85BR60K				500
36B20RS	NS40ZS	275	300	360	95D31R	NX120-7	620	660	850
36B20LS	NS40ZLS	275	300	360	95D31L	NX120-7L	620	660	850
38B20R	NX60-N24	330	340	410	95E41R	N100	515	640	770
38B20RS	NT60-N24S	330	340	410	95E41L	N100L	515	640	770
38B20L	NX60-N24L	330	340	410	105E41R	N100Z	580	720	880

Instructions

Instructions:

Connect the clips to the appropriate battery terminal or post: red to positive, black to negative. Once the Battery Tester initialises, it will display the **Battery Test** screen. To select one of the four test functions, use the **L** and **R** keys to scroll back and forth. Use the **Enter** key to select the test required.

Battery Test:

- Vehicle's ignition is switched OFF and all electrical equipment is OFF.
- Select **Battery Test**.
- Press **Enter**
- If the battery voltage 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.
- Select the battery capacity rating standard; there is a choice of five capacity rating standards — refer to **Battery Suitability** (above) — the information is normally found on a sticker on top of the battery. Press **Enter** to continue.
- Select the battery capacity rating (eg, 550 CCA); use the **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 display:
 - SOC: (state of charge)
 - SOH: (state of health) — battery condition (refer to table below)
 - CCA: (or EN, DIN, etc, depending on selection) cold cranking current as measured on the test.
 - V: battery voltage as measured on the test. (If voltage is low a '**Charge and retest**' message will be displayed with the test results).
 - r: internal resistance.

State of Health (Battery Condition)

Battery Condition	Test result displayed	Advice
SOH > 80%	Great	Battery in peak condition.
SOH 60% — 80%	Good	Serviceable / good.
SOH 45% — 60%	Caution	Poor condition — will need replacement soon.
SOH < 44%	Suggest Replace	Replace battery.

- Print the test results (press Enter). Data will be printed — tear off.

Automotive Battery Tester with Printer

Charging System Test:

1. Select **Charging System Test**.
2. Start the engine and bring it to 2000rpm for about 15 seconds.
3. Press **Enter**.
4. The results will be shown on the display:
 - Three voltage measurements are displayed — Vmax, V, Vmin (maximum, average and minimum).
 - Two advisory voltage figures are displayed:
 - o <15.0V — if the test result of maximum voltage is above this figure this indicates overcharging (check and / or test the voltage regulator).
 - o >13.3V — if the test result is below this figure this indicates a low charging rate (check the connections [including main battery and ground connections], wiring and alternator).

Note: If test is conducted before engine is started (ie, Enter is pressed, test commences, then engine is started), then the Vmin (minimum voltage recorded) will show an artificially low reading (well below the 13.3V) because of the starter motor load.

Start System Test:

1. Vehicle's ignition is switched OFF and all electrical equipment is OFF.
2. Select **Start System Test** and Press **Enter**.
3. The static readings will be displayed: Current voltage, Starting voltage and the advisory voltage figure: Vmin > 8.0V
4. Start engine.
5. The readings now show the voltages during the operation of the starter motor. If the **Start** figure is above 8.0V then the starter system is OK. Below 8.0V indicates a faulty starter system (check connections [including main battery and ground connections], wiring and the starter motor).
6. If you wish to perform the test again, press **Exit** key to clear the memory before starting again from (2) above.

Maximum Load Test:

1. Start the engine.
2. Select **Max. load Test** and press **Enter**.
3. Switch on all the vehicle's electrical equipment (ie, all lights, heated rear screen, heater fans on full, etc).
4. Bring the engine to 2000rpm for about 15 seconds.

Battery Specifications & Conversion Tables

Table 1

Battery Size Range Conversion Tables

EN and DIN Conversion Tables									
Specification			CCA	Specification			CCA		
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					

Battery Specifications & Conversion Tables

Table 1

Battery Size Range Conversion Tables

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

Instructions

- The Full open figure is the lowest voltage recorded during the test. The advisory $V_{min} > 12.8V$ figure is displayed. If the Full open figure is below this, then check circuit connections [including main battery and ground connections], wiring, the alternator and also check the alternator belt is not slipping.
- If you wish to perform the test again, press **Exit** key to clear the memory before starting again from (2) above.

Maintenance:

Adjusting the date and time:

- Press and hold the **Exit** key **then** connect the tester to a suitable battery.
- Use the **Exit** key to select the parameter, then use the **L** and **R** keys to change. Press the **Exit** key again to go the next parameter to be changed. Press the **Enter** key when finished.

Replacing the Thermal Paper Roll:

- To get access to paper roll, slide access cover up and away from tester.



- Connect tester to a suitable battery. Place paper edge of new roll under the black rubber roller.



- Then press the **Enter** button to feed the paper through the rollers.



- Replace cover and tear off excess paper.