UT673A/UT675A Battery Tester

Overview

UT673A/UT675A battery tester, with its leading-edge conductivity test technology, accurately and rapidly helps users to measure the cold cranking amps capability of the vehicle starting battery, healthy state of the battery itself, detect the common fault of vehicle starting and charging system, which helps repair vehicle quickly.

Safety information

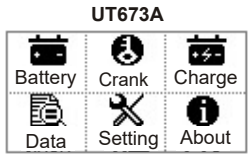
Please carefully read this manual and follow the warning and safety information before use.

- To avoid fire and overcurrent, please read all rated values and symbol descriptions before use.
- Do not open the case cover. Do not turn on the tester if its cover or front panel is open.
- Do not touch the connectors and components if the tester is powered on.
- Please contact the authorized repair personnel to detect, repair, maintain the tester if you find any fault on it.
- Do not use in humid, explosive or inflammable environment.
- Keep the tester surface clean and dry. Keep it well-ventilated.

Product introduction

Interface

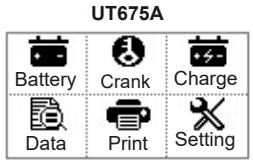
UT673A



UT673A

1) Battery: Battery test.
2) Crank: Vehicle Cranking system test.
3) Charge: Vehicle Charging system test.
4) Data: The last test result can be viewed.
5) Setting: Language setting.
6) About: View the system information.

UT675A



UT675A

1) Battery: Battery test.
2) Crank: Vehicle Cranking system test.
3) Charge: Vehicle Charging system test.
4) Data: The last test result can be viewed or upload.
5) Print: Print test data.
6) Setting: Language and time setting, view the system information.

Feature

1) Applicable to 12V battery testing and 12V/24V vehicle cranking/charging system test.
2) Measurement standard and range:

Measurement standard	Measurement range	Measurement standard	Measurement range
CCA	100-2000	DIN	100-1400
BCI	100-2000	IEC	100-1400
CA	100-2000	EN	100-2000
MCA	100-2000	SAE	100-2000
JIS	26A17—245H52	Ah	30-200Ah

3) Working temperature: -20°C—50°C.
4) Special test clip: Double-conductor Kelvin clip.
5) Case material: Acid-resistant ABS plastic.
6) Measurement range of battery: 30Ah—200Ah.
7) Measurement range of voltage: 7V—16V.
8) Portable.

Example for selecting standard

Battery identification	Standard	Battery parameter	Remark
12V/60Ah/CCA 500A	CCA	500	12V battery, the capacity is 60Ah, the cold-start current is 500A.
300A EN	EN	300	The standard value is 300A.
12V 250Ah 60Ah DIN	DIN	250A	12V battery, the capacity is 60Ah, the standard value is 250A.
26A19R 12V 60Ah	JIS#	200	12V battery, the capacity is 60Ah, check JIS CODE conversion table and find that 26A19R corresponds to 220A for CCA.
26A19RMF 12V 60Ah	JIS#	220	12V battery, the capacity is 60Ah, check JIS CODE conversion table and find that 26A19R corresponds to 220A for MF CCA.
12V/60Ah	AH	60Ah	If the standard is not found, estimate CCA value according to the battery capacity.

Operation instruction

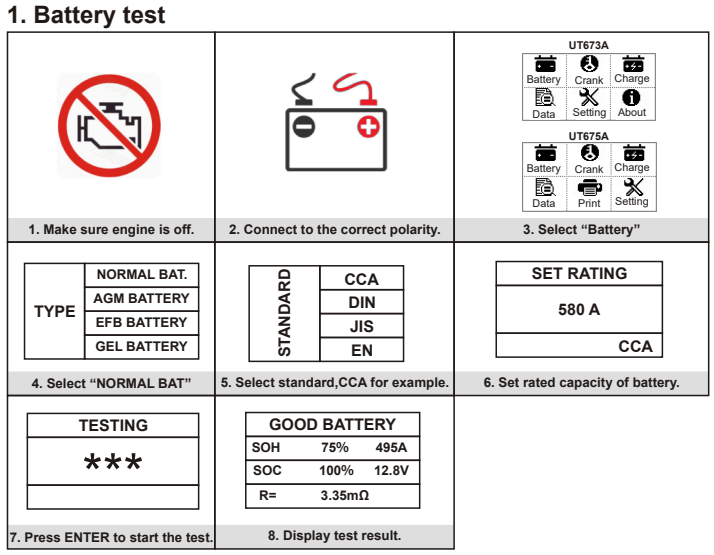
1. Connect the red and black clips of tester to the measured battery, red is positive, black is negative, the tester screen will display startup interface. If the battery voltage is lower than 7.0V, the test will become abnormal.
2. According to the prompts, press up and down button to select:

UT673A: ① Battery test, ② Cranking test, ③ Charging test, ④ View test results, ⑤ System setting, ⑥ About.

UT675A: ① Battery test, ② Cranking test, ③ Charging test, ④ View test results, ⑤ Print test result, ⑥ Setting.

Tests below are based on 12V, 60Ah, CCA580A:

1. Battery test



Battery Test results

Description	Interpretation
The battery is in good condition.	The performance of storage battery is good, please continue using the battery.
The battery is in good condition, please charge the battery.	Because the voltage of storage battery is lower than 12.3V, so the performance of storage battery is good, please continue using the storage battery after it is fully charged.
Retest after charging	Because the battery voltage is lower than 12V, so please retest after it is fully charged. Incorrect reading may occur if the battery is not fully charged. Please replace the battery if "Retest after charging" displays again after charging.
Replace the battery	Replace the storage battery.
The battery is in bad condition, replace the battery.	Battery inside is damaged, replace the storage battery.

1) Battery capacity (SOC): The percentage of remaining battery capacity,

$$SOC=\frac{\text{Remaining capacity}}{\text{Actual capacity}}\times 100\%.$$

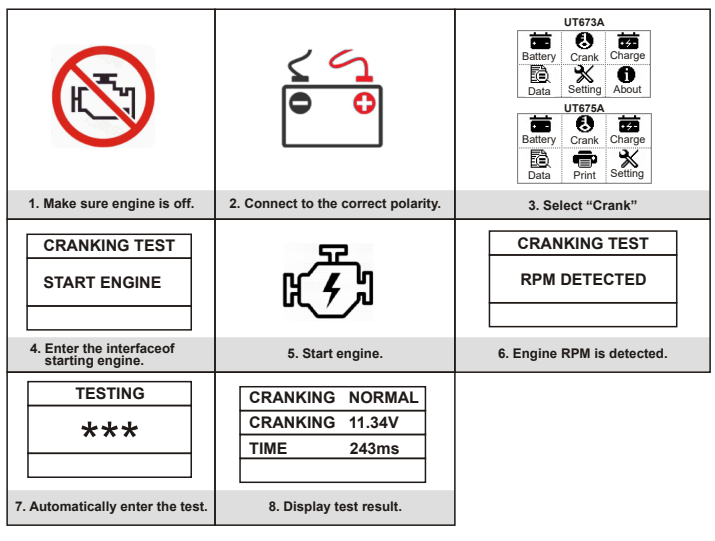
2) Battery voltage (VOLTAGE): The voltage value of storage battery (Unit: V).
3) Battery life (SOH): State of health of battery storage,

$$SOH=\frac{\text{Actual capacity}}{\text{Nominal capacity}}\times 100\%.$$

4) The measured cold-start current: The measured cold-start current of tester.
5) Nominal cold-start current: Nominal cold-start current of storage battery
6) Internal resistance of battery (R): The measured internal resistance of storage battery.

NOTE: For low-capacity battery (For example, the vehicle is shut down for a long time, the battery is not charged in time, the battery power is significantly lost because the vehicle door is not closed.), the tester may prompt you to "Replace battery" during actual measurement, please consult the storage battery factory and charge the battery according to the designated method, and then retest.

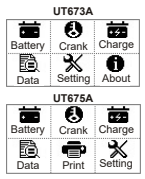
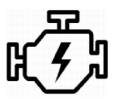
2. Cranking test



Test results

Decision	Interpretation
Starting voltage is normal.	The starting voltage is higher than 9.6V.
Starting voltage is low.	The starting voltage is lower than 9.6V.

3. Charging test

		
1. Make sure engine is off.	2. Connect to the correct polarity.	3. Select "Charge"
CHARGING TEST START ENGINE PRESS ENTER TO CONTINUE		RIPPLE TEST 5mV 12.65V
4. Enter the interface of starting engine.	5. Start engine.	6. Start ripple test.
LOADED TESTING *** 	INCREASE RPM TO 2500 R/MIN AND KEEP IT 5 SECONDS PRESS ENTER TO	CHARGING NORMAL LOADED 14.26V UNLOADED 12.65V RIPPLE 5mV
7. Start loaded testing	8. According to the prompt, Step on accelerator to increase the engine speed to 2500 R/Min and hold for 5 seconds.	9. Display test result.

Test results:

Decision	Interpretation
Charging voltage is normal.	Charging system is normal, the output voltage of engine is 13.5V~14.7V.
Charging voltage is low.	Charging system is under-voltage, the voltage is lower than 13.5V.
Charging voltage is high.	The voltage of charging system is higher than that of vehicle voltage stabilizer.
No voltage output.	Generator voltage output is not detected. Check if the connector and generator belt is normal.
Diode test.	Test via current waveform, for example, the diode is damaged due to high ripple voltage of diode.

View test result

a) For UT673A, ENTER to view the last test result of Battery test, Cranking and Charging system test.
b) For UT675A, ENTER to view and export the last test result of Battery test, Cranking and Charging system test. Connect the computer to export the last test result via serial port and print the result.

Note: Please find the application software on our website by searching UT675A and search under Docs & Software section.
https://www.uni-trend.com.cn/index.php?m=content&c=index&a=show&catid=515&id=882

About (Applicable to UT673A)
ENTER to view system information.

Print test result (Applicable to UT675A)
ENTER to print the last test result of Battery test, Cranking and Charging system test.
Note: The normal working voltage of the printer is 10~16V.

Setting
ENTER to select language (English or Chinese).

Function

ENTER to enter setting page.

Language selection

User can select desired language as needed. After entering language selection page, press ENTER to select English or Chinese.

Time adjustment (Applicable to UT675A)
User can adjust or correct the system time, time sequence adjustment (Year/Month/Day /Hour/Minute) does not affect the setting of date and time format.

a. Press up or down button to adjust the last two digits of the YEAR, then press ENTER to confirm this adjustment and enter month adjustment.
b. Press up or down button to adjust Month, then press ENTER to confirm this adjustment and enter date adjustment.
c. Press up or down button to adjust DATE, then press ENTER to confirm this adjustment and enter hour adjustment.
d. Press up or down button to adjust HOUR, then press ENTER to confirm this adjustment and minute adjustment.
e. Press up or down button to adjust MINUTE, then press ENTER until "OK" is displayed. After finishing the adjustment, the tester will go back to main interface. When adjusting the time, the time character will flash. By pressing and holding the button, the character will increase or decrease continuously.

NOTE: Make sure the button is pressed for more than one second when adjusting time. After entering time setting, pressing return button is disabled because the system time is protected, users need to set Year/Month/Day/Hour/Minute or press return button 5 times to return.

Specification

Model		UT673A	UT675A
Applicable battery		12V cranking lead acid battery	
Battery type		Ordinary lead acid battery, AGM flat plate battery, AGM spiral battery, GEL battery, EFB battery.	
Battery capacity		3~250AH	
Battery standard and range		CCA:40~2000; BCI:40~2000; CA:40~2000; MCA: 40~2000; JIS:26A17~245H52; DIN:40~1400; IEC: 40~1400; EN:40~2000;SAE:40~2000; AH:3~250 AH	
Voltage range		7~16V DC	
Test method		Four-terminal kelvin test lead	
AH rapid measurement		√	
Overvoltage protection		√	
Prevent counter voltage		√	
A prompt of poor contact		√	
Internal resistance measurement		√	
Battery life		√	
Remaining battery capacity		√	
Cranking test		12/24V cranking system test	
Charging test		12/24V charging system test	
USB data transfer		/	√
Printing function		/	√
LCD		LCD (128*64 black and white lattice)	
Language		Chinese and English	
General			
Working environment	Temperature	0°C~50°C	
	Relative humidity	Operating: below +35°C, ≤90% Non-operating: +35°C~+40°C, ≤60%	
Net weight (excluding batteries)		264g	413g
Product dimension (excluding test leads)		76mm*22mm*142mm	95mm*47mm*183mm
Packing box dimension		175mm*45mm*320mm	285mm*90mm*230mm

Accessories

UT673A	UT675A
Tester host: 1 piece	Tester host: 1 piece
User manual: 1 piece	User manual: 1 piece
Velcro strap: 1 piece	USB cable: 1 piece
	Printing paper: 3 pieces
	Cloth bag: 1 piece

Maintenance

1. Do not put or store the tester in the place where its LCD is exposed to direct sunlight for a long time. No sprays, liquids or solvents are allowed on the tester or fixtures.
2. Please clean the dust on the tester with soft cloth. Do not scratch the protection screen of LCD. Wipe the tester with a damp but non-dripping soft cloth. Never use any corrosive chemical detergents.

⚠ Warning: Before the tester is powered on, please make sure it is completely dry to avoid short circuit caused by moisture.

UNI-T®
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Songshan Lake National High-Tech Industrial
Development Zone, Dongguan City,
Guangdong Province, China

说明书菲林做货要求：

序号	项目	内容
1	尺寸	展开尺寸：285*210mm　折后尺寸：142.5*95mm
2	材质	80g铜板
3	颜色	单色 印刷
4	外观要求	完整清晰、版面整洁，无斑墨、残损、毛边、刀线错位等缺陷。
5	装订方式	无
6	表面处理	无
7	其它	无
版本		REV.0

DWH 设 计	宣浩	MODEL 机型: Ut673A/675A	Part NO. 物料编号:
CHK 审核		UNI-T 优利德科技（中国）有限公司 UNI-TREND TECHNOLOGY (CHINA) LIMITED	
APPRO. 批准			