

ASTRATEC Model 3911R

12 VOLT AUTOMATIC BATTERY CAPACITY TESTER.

Operating guide
3911R11



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RAPID BATTERY TESTING AND CHARGING SOLUTIONS.

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1.0 PRODUCT INTRODUCTION.

The 3911R is an easy to use, microcontroller based battery testing system designed to provide a reliable and accurate discharge test of 12 volt Lead Acid batteries in the range 15 - 200Ah and is ideal for testing the performance of batteries.

Testing a battery could not be easier, simply connect the tester to the battery (battery must be fully charged) and press the ENTER push button to begin the test.

The test finishes automatically as the battery reaches the test end voltage (default setting = 9.00v) and shows the battery result as a "runtime" in minutes. Simply compare the test minute result with the expected time shown on the time run chart to determine the battery capacity.

A summary test report with battery discharge chart can be printed on an optional till roll printer (Astratec part EPT1). The last test result is automatically saved by the tester and can be recalled and reprinted as required.

The 3911R is designed for use by non-technical users and no battery or computer knowledge is required. Each unit is supported by a full 12 month parts and labour warranty and a telephone help line.

2.0 CONTROLS

The 3911R is very easy to use, simply press the SELECT pushbutton to choose from the menu (ie setup test conditions)then press the ENTER pushbutton to agree the selection (such as start the test or print the results)

The CLEAR pushbutton stops everything and resets the tester to the beginning of the start menu.



IMPORTANT :

*The 3911R is designed to operate with batteries from 12 – 16V volts
Reverse battery connection or connection to 24v batteries will not
damage the tester (connecting to batteries greater than 16v
will result in a warning message being displayed on the lcd, reverse
connection will simply be ignored and the front panel lcd will remain blank)*

3.0 TESTING A BATTERY & PRINTING THE TEST REPORT

3.1 Connect to battery to be tested (must be fully charged) Lead Acid 12v (15 - 200Ah). The 3911R will power up and show the battery voltage on the face panel LCD display.

3.2 If the battery voltage is too high (eg 24 Volts) a warning message will appear on the LCD display. If the battery is connected in reverse the tester will not function and no damage will occur.

```
ASTRATEC .....  
Battery tester  3911R  
  
Ver : R11      02.48PM
```

3.3 Press the "ENTER" pushbutton to begin the test. The battery will be discharged at 20 Amps Test ends automatically at 9.0 volts (End voltage is user adjustable but pre-set to 9.00v)

```
DISCHARGE @ 20 Amps  
Test ends    @ 9.00v  
  
Press ENTER to begin
```

3.4 The LCD shows battery voltage and accumulating run time during the test

```
Testing @ 20 Amps  
Battery = 12.10v  
  
Runtime = 10.4 mins
```

3.5 Test ends automatically as battery falls to end voltage LCD shows test results and battery testing data

```
TEST 1 COMPLETE !  
DISCHARGE @ 20 Amps  
  
RUNTIME = 28.7 mins
```

3.6 To print the full test result to the optional thermal printer (ref : EPT1) connect the printer then press and hold the ENTER pushbutton. Test results for the last test are automatically saved and can be recalled as detailed below (3.7)

```
Printing .....  
Test report No 1
```

3.7 To recall LAST TEST RESULT, connect tester to any charged 12v battery. Hold down "ENTER" push button as tester is connected to battery, then release when recalling message shows. Connect the printer, press and hold the "ENTER" pushbutton to print result.

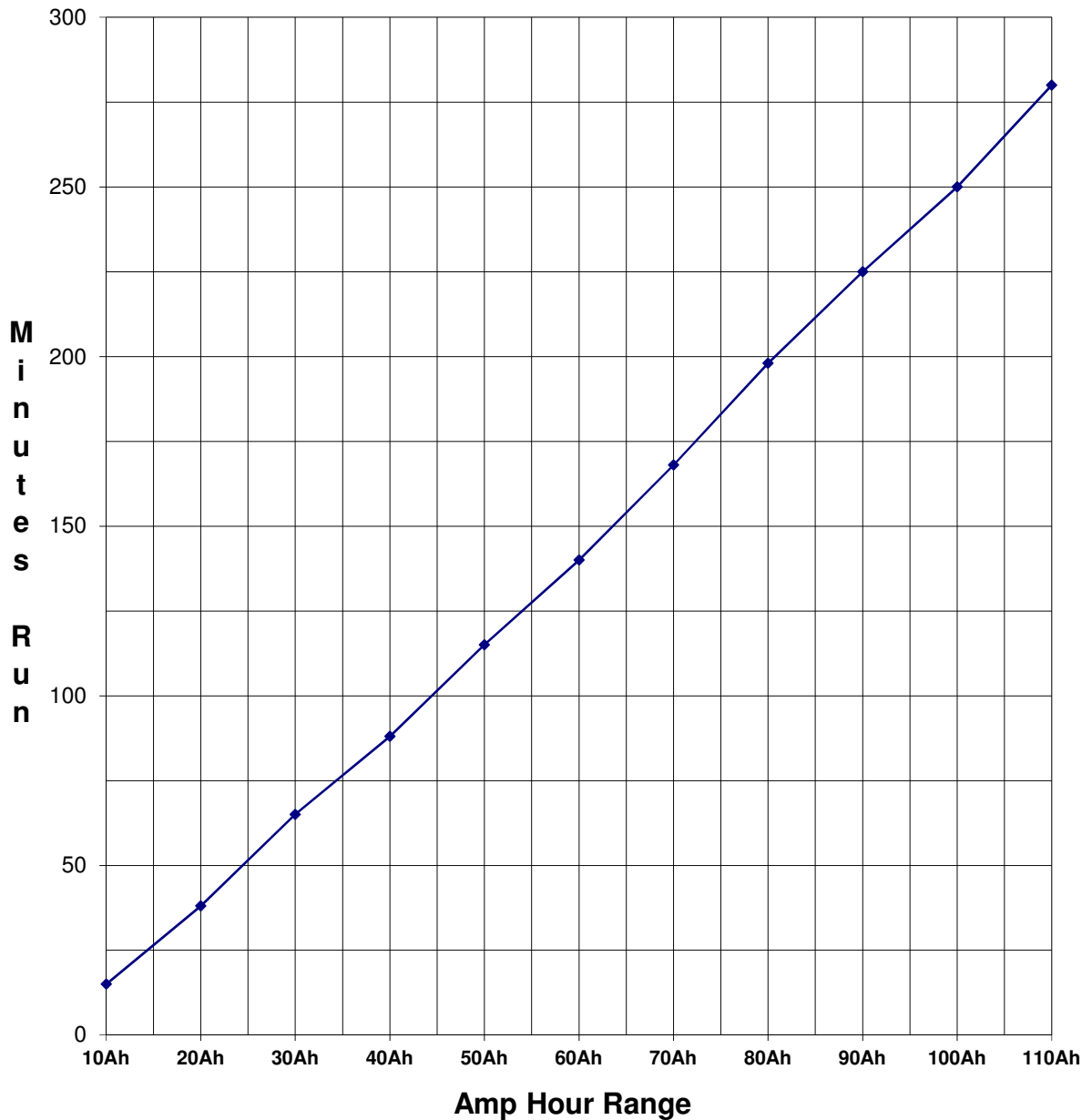
```
Recalling previous  
Test Result .....
```

IMPORTANT NOTE : The optional thermal printer (EPT1) contains rechargeable batteries (4x AA) if the green led on the printer front panel is flashing this indicates these batteries need recharging !

To do this simply plug the printer into the 3911R tester and connect the tester to a charged battery. The printer will fully charge from the tester in around 10 hours.

4.0 Approximate Discharge Times

(End volts set at 9.00 V @ 25 Degrees C)



Times shown are approximate, for best results test a good, fully charged battery and discharge on the 3911R. The time obtained can then be used as a “ benchmark “ which will take into account the type of battery you are using and also the charger type and recharge efficiency.

To establish the performance of an unknown battery, simply fully charge the battery and discharge on the 3911R. The time obtained tells you the battery’s capacity eg :

If a good battery runs for 60 minutes and the unknown battery runs for 30 minutes then the unknown battery has $\frac{1}{2}$ of the capacity of the good one. (ie 50 % performance)

5.0 WARRANTY.

Astratec Electronics Limited warrants this device to be free from defective material or workmanship for a period of one full year (unless otherwise agreed) from date of original purchase. Under this warranty Astratec is limited to repairing defective devices when returned to the factory, shipping charges prepaid, within one full year from date of original purchase. Units returned to Astratec that have been subject to abuse, misuse, damage or operated contrary to the instructions provided by Astratec, or repaired by unauthorised persons, will not be covered by this warranty.

The purchaser agrees to assume all liabilities for any damages and/or bodily injury that may result from the use or misuse of this device by the purchaser, his employees or agents. Astratec shall not be liable in any way for consequential damage resulting from use of this device.

6.0 RECALIBRATION.

All ASTRATEC products are designed and manufactured in the UK using first quality components.

However, from time to time it is important to have your unit checked to confirm correct operation and to check the various calibration parameters which are required to ensure accurate results.

For normal commercial operation, we recommend that this unit be checked after a period of 24 months from date of purchase.

For equipment that includes a mains power connection, a full electrical safety check will also be carried out.

For very high volume users and for situations where the equipment may be subject to abuse or operation in poor environmental conditions, we recommend recalibration and operational checks every 12 months or earlier if a fault is suspected.

To organise a repair or recalibration contact our sales office for details of your nearest service agent. sales@astratec.co.uk.

7.0 HELPLINE.

Astratec have over 25 years of experience designing, manufacturing and using battery testing and charging equipment.

Batteries are complex electro-chemical assemblies that take time to understand and when faulty can exhibit symptoms that can seem unexplainable.

We pride ourselves on our product support, got a battery problem? Not sure what you are seeing?

Call us for advice on +44 (0) 1327 705936 or email sales@astratec.co.uk.

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