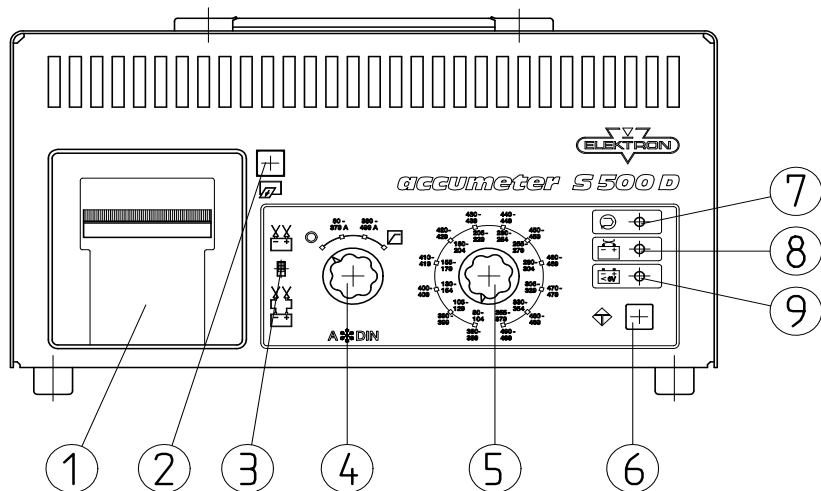




Operating instructions **GB**

# Battery tester ACCUMETER S 500 D



### Legend

- 1 Printer
- 2 Key paper advance
- 3 Slide switch  
Battery tap to battery / at external test point in engine space
- 4 ON/OFF function switch
- 5 Cold cranking current selection switch
- 6 Start key
- 7 LED green (device operational)
- 8 LED red (device wrong polarity)
- 9 LED red (battery test not possible)

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### 1.0 Safety instructions

- ➔ Attention! When testing the battery, explosive gases can be created. Only test batteries in well ventilated areas!  
Danger of explosion due to formation of oxyhydrogen gas.
- ➔ Avoid fire, naked flames and sparks!
- ➔ Always wear safety glasses, protective gloves and protective clothing!
- ➔ Wash off acid drops on skin and/or clothes immediately.

- ➔ ATTENTION
- ➔ In the case of intense smell of gas, danger of imminent explosion!
- ➔ Do not switch device off!
- ➔ Do not remove testing clamps!
- ➔ Ventilate room immediately!
- ➔ After sufficient ventilation, switch off battery tester!
- ➔ Protect battery tester from dampness and wetness!

### Put printer into paper feed mode.

**ATTENTION!** Device must be connected to a battery!

- Set switch (4) to position "battery test" (range of cold cranking current 80 - 397 A).
- Press and hold the key "paper feed" (2).
- Press (6) key "Start"
  - The green LED (7) flashes.
- Release key (2) and (6)
- Feed the end of the paper into the paper shaft (the paper shaft is situated behind the colour tape). The paper must be fed to the stop position.
- Press key "paper feed " (2) until the paper has been pushed out by approx. 3 cm. Feed the paper through the slot in the cover and close the cover.
- Press the "Start" key (6).
  - Green LED extinguishes.
- Turn off switch (4).
- Remove clamps from battery.

### Change colour tape

- The colour tape cartridge has "Push" engraved on it at one side. By pushing the cartridge gently at this point, it can be levered out and then taken out from the front.

### Putting in a colour tape cartridge:

- Before putting another cartridge in, tension the colour tape with the rotary button. Now the cartridge can be put into the printer. In doing so the free part of the colour tape is fed through the slot through which the paper would be normally fed through too.

- **ATTENTION!** It is not permitted to pull the paper hanging out of the printer by hand as it could be damaged. It is also not permitted to pull the paper back through the printer by hand.

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## 5.0 Technical data

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### ACCUMETER Type S 500 D

**Battery voltage:** 12 V

**Load current range**  
(80 - 379 A): **250 A**

**Load current range**  
(380 - 499 A): **500 A**

### Controlling system:

Electronic testing device with LED displays and print-out of the test results via integrated printer.

**Cooling type:** Self-cooling

**System of protection:** drip-water protection IP 21

**Measurement**  
(H / W / D): 210 x 365 x 230 mm

**Weight:** 8,0 kg

- Ensure that the tester stands in a secure place.
- Read instruction manual carefully before starting up the testing device.
- Always use testing device in accordance with operating instructions.
- The test clamps may not be removed during testing.
- After the test has finished, turn switch (4) to 0 and then remove test clamps.

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## 2.0 Device description

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You can test **12 V** starter batteries from 80 - 499 A\*DIN  
resp. 95 - 574 A\*IEC  
resp. 136 - 855 A\*EN/SAE  
\* = cold cranking current


using the battery tester. For test purposes, the batteries are loaded with a current which is equivalent to the starting current of a car or lorry. The battery is judged under this load and the result of the measurement is printed out on the printer.

The voltage supply for the device results from the starter battery to be checked.

3 LEDs show:

- device operational - LED green
- device connected in reverse - LED red
- battery voltage too small - LED red (battery test not possible, load battery)

Battery voltage has to be **at least 6 V otherwise the unit will not operate.**

Using the setting regulator test , it is possible to check that the regulator is working correctly.

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## 3.0 Starting up





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- Take note of safety instructions!!
- Observe of handling instructions battery manufacturer!!

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## 3.1 Battery test

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- Find out cold cranking current of the battery in A according to DIN (A\*DIN).  
If the battery shows this value not in DIN but in IEC or EN/SAE, the value has to be changed by means of the tables available on the unit. Set the cold cranking current with switch (5).
- Set the measuring range 80 - 379 A resp. 380 - 499 A with switch (4).
- Connect test clamps well and to the correct poles of the battery or connect to battery support in the engine space.
- Connect red clamp (+) to positive pole, black clamp (-) to negative pole.
- Select connection point for test clamps using switch (3):  
 Position  direct connection to battery.
-  Position  connection to external testing point in engine space
- Check whether cold cranking current stated on the battery is the same as the setting on the battery tester.
- Start test by pressing key (6)

- After the start key has been pressed, the green LED (7) "test started" lights up. The programme runs automatically. The test result will be printed. The following test results can be printed:

"Starting capability very good"

"Starting capability good"

"Starting capability sufficient" - replacement of battery recommended

"Starting capability bad" - replace battery

"Starting capability very bad" - replace battery

"Cannot be tested" - recharge battery and test again.

- LED (8) indicates whether the battery has been connected the wrong way round.
- LED (9) indicates "battery cannot be tested, battery has to be charged". This indication appears if a printing is not possible.

An empty battery cannot be distinguished from a faulty battery. After charging, the test is repeated. If the indicator lights up again, the battery is faulty.

### LED wrong polarity

- If, immediately after the test has been started, the indicator (8) "wrong polarity" lights up, the test clamps have been connected to the wrong poles. If no display lights up, the contact between the load clamps and the battery poles should be checked or the voltage of the 12V battery in < 7V in the unloaded state. The battery must be charged first in this case.

### End of test


- After max. 20s the test has finished. The result is printed (the test can be repeated by starting it again once the printer has finished printing).

- **ATTENTION!** Before removing the test clamps, switch the device off using the turn switch (4).

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### 3.2 Regulator test

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- Set switch (4) to 0.
- Ensure good contact and correct polarity between test clamps and battery poles or external test point in the engine space.
- Start engine.
- Set switch (4) to "regulator test" .
- Operate start key (6).
- The green LED (7) "test running" lights up". The vehicle battery is charged by the dynamo. As soon as the voltage of the battery has stabilised, in the case of an intact battery and dynamo in approx. 4 minutes, the test result is printed out. The print-out shows "regulator normal".

If the battery voltage does not stabilise itself within 4 minutes, the device terminates the test. The print-out reads "regulator test not possible". In this case, the vehicle's electrics, the battery and the dynamo should be checked.

- The print-out "regulator too low" is a result of a faulty battery or a faulty regulator. The print-out "regulator too high" indicates that the regulator voltage is too high, the battery is continuously being overcharged: significant water loss!
- **ATTENTION!** Before the test clamps are removed, switch the device off using the rotary switch (4).

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### 3.3 Battery test - high current load

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#### Recognising battery guarantee damage:

Manufacturing faults can be recognised using the testing device with a high current load on the battery. Typical guarantee cases are fine contacts and cold soldering points in the cells which do not occur until after the battery is being used. Under high current load, these faults cause the following:

#### Fine contacts

Pearly gas in the faulty cell.

#### Cold soldering spots

Local boiling of the faulty cell with unpleasant development of sulphur odour.

#### Course of test

**ATTENTION!** Only test battery after it has been removed from the car. Ensure good contact and correct polarity between test clamps and poles.

- Switch rotary switch (4) to range of cold cranking current A\*DIN (80 - 379 A resp. 380 - 499 A). For testing purposes the cell bungs are removed and whilst the load is being applied, the behaviour of the cells is observed.

- **ATTENTION!** Do not bring your face too close to the battery. It is very important to observe safety instructions (see 1.0).

- Press the start key (6) until the faulty cell shows the typical reactions. The gas formation or boiling of the cell begins after approx. 20 to 30 s. The permanent load application is limited to 30 s and switches off automatically. The load can be applied again by briefly letting go of the start key (6) and then pressing it again.

- **ATTENTION!** Before removing test clamps turn off the tester by using rotary switch (4).

- **ATTENTION!** Do not overheat device. Wait for it to cool down.

- **ATTENTION!** As large amounts of gas can be formed during this test, this test may only be carried out in well ventilated rooms.

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### 4.0 Printer

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The printer is equipped with a replaceable paper roll and a colour tape cartridge (available from retailer).

#### Changing the paper roll

- Remove clear hood
- Remove axle of the paper roll
- Push new paper roll onto axle and place into depression for paper roll in the printer (end of paper to the top, paper runs from behind).