LCD DISPLAY KEY

1. 12V Standard lead acid battery mode
2. 12V AGM lead acid battery mode
3. Winter mode for Standard and AGM 12V
4. 6V Standard lead acid battery mode
5. Charge indicator, each bar represents 20%
   - Outline border flashing indicates charging in progress
   - Outline border and 5 bars indicate battery fully charge and maintenance activated
6. Voltage indicator
7. Reverse polarity indicator
8. Bad battery indicator
9. Indicates poor clamps indication

TROUBLESHOOTING

Battery polarity reversal symbol displayed.	Battery clamps reversed.
Poor clamp symbol displayed	Dirty or oxidized battery terminals. Clean terminals.
No display.	Mains power supply not connected.
Display backlight on, display showing 0.0V and clamp symbol.	Battery not connected.

CAR BATTERY MAINTENANCE

It is essential to keep your battery regularly charged up throughout the year, especially during the winter months. In the winter the effectiveness of your car battery is reduced by the cold. Oil is thick, engines are difficult to start and the heater, windscreen wipers and lights are all draining power. It is at this time that batteries have to be at peak power. If your battery is not regularly maintained and kept fully charged, it can cause problems and a possible breakdown.

DECLARATION OF CONFORMITY

We declare that this product conforms to the following standards EN60335-1, EN60335-2-29, EN55014, EN61000, and the following Directives 73/23 CEE, 93/68 CEE, 2004/108/EC, 2002/95/EC (ROHS),

IP65

INSTRUCTION MANUAL
ELECTRONIC SMART CHARGER 6V / 12V 4,5A
CHARGER SCZ15

GENERAL SAFETY

This manual contains operating guidelines and important safety procedures. Please read this user manual carefully before using the charger and keep in a safe place for future reference.
Use charger in a safe well-ventilated environment that is clear of corrosive or explosive chemicals, flammable liquids or gases. Keep charger and battery away from sources of ignition as a charging battery produces explosive gases. It is recommended that safety goggles be worn.
Check charger for general condition and ensure that cables, input/output leads, plugs and crocodile clips are not damaged in any way. Never use a charger that is damaged and never attempt to carry out repairs to a damaged charger.
Charger should only be used by a responsible and competent adult.

WARNINGS

Do not attempt to start the vehicle with the charger connected to the battery.
Do not attempt to charge a non-rechargeable battery.
Do not use this charger to charge dry cell batteries.
Do not attempt to charge a frozen battery.
Only lead/acid (conventional, SLI, SMF, Gel and AGM) batteries (12V/1.2Ah to 12V/150Ah) should be charged.
Charger should not be used as a continuous source of power.
Only use cables that are provided with this charger.
Do not use this battery charger if the mains lead or plug is damaged.
Do not use this battery charger if the output leads or crocodile clips are damaged.
Do not use this battery charger if it has been dropped or damaged in any way.

Turn off mains power supply before disconnecting charger from battery.
Avoid contact with battery acid and wash immediately with water if acid does come into contact with skin or eyes.
Wear safety goggles and protective clothing to offer protection from acid and electrolyte.
Do not attempt to clean charger with cleaning solvents, use only a clean cloth or tissue.
Do not smoke near battery and ensure adequate ventilation.
Do not cover charger during operation and disconnect from mains when not in use. Disconnect charger if battery heats up excessively or if leaks from the battery appear. When charging battery never allow battery terminals to be connected by any means.
Remove all metal objects (rings, bracelets etc.) when handling battery charger to avoid short circuits and resultant burns.

DISPOSAL

In the event that this product must be disposed of, an authorized place for the recycling of electrical and electronic appliances must be sought. Contact your local authority for information concerning local Household Recycling Centres with applicable facilities.
This product must not be disposed of with general domestic waste.

BATTERY CHARGING INSTRUCTIONS

Please read your vehicle manufacturer's instructions for further information and advice regarding the disconnection of the battery for charging purposes.

IMPORTANT: This model will only recover 12 volt batteries with a minimum residual voltage of 8 volts, or 6 volt batteries with a minimum residual voltage of 4 volts. If the residual voltage is lower than above figures, the charger will not operate.

Batteries store large amounts of energy. Avoid short circuits which could result in a dangerous electrical discharge that could result in personal injury and / or damage to equipment and property. The charger will automatically detect the voltage (6V or 12V) and diagnose the condition of your battery. This will initiate a recovery charge followed by a 4 steps charging program, or go straight to the 4 steps program (as listed in part 4).

1. PREPARATION OF THE BATTERY

In the case of non-sealed lead-acid batteries, firstly remove the caps from each cell and check the level of liquid. If it is below the recommended level, top up with ionized or distilled water. **UNDER NO CIRCUMSTANCES SHOULD TAP WATER BE USED**

To avoid battery acid splashing, the cell caps should be replaced but not tightened until charging is complete. This allows any gases formed during charging to escape. It is inevitable that some minor escape of acid will occur during charging. If your battery is permanently sealed it is unnecessary to carry out these checks.

2. CHARGING LEAD SELECTION

Interchangeable ring terminal and fully-insulated battery clip charging leads are supplied. Select the appropriate lead for your application and attach to the charger output lead using the quick fit connectors fitted to each, before connecting the charger to either the mains supply or battery.

3. CONNECTION

To avoid sparks which could cause an explosion, the mains supply should always be disconnected before making or breaking battery connections. Connect the battery clips or ring terminals to the battery in the following order:

Connect the positive charging lead (RED) to the positive post of the battery (marked + / +ve or P).

For vehicles with the battery still installed: Connect the negative charging lead (BLACK) to the vehicle chassis (marked - / -ve or N), well away from the battery, fuel line, and hot or moving parts.

For batteries removed from the vehicle: Connect the negative charging lead (BLACK) to the negative post of the battery (marked - / -ve or N).

After connecting the clips, rotate them slightly so as to remove any dirt or oxidization, thus ensuring a good contact.

4. CHARGING

WARNING! DO NOT ATTEMPT TO START THE VEHICLE WITH THE CHARGER CONNECTED. THIS MAY DAMAGE YOUR BATTERY CHARGER.

1. Switch on the mains power supply. For 12V batteries select the appropriate kind of battery or winter mode in case of low temperature. Providing the battery is in an acceptable condition the charge cycle will now start and the LCD display will show charging information.
2. When the battery is fully charged with 5 bars shown on the display, the charger will switch to provide a maintenance charge and may be left connected to the battery.

The 6 steps charging program are:

1. Test of the battery.
2. Pulse charge for battery reconditioning.
3. Initiating of the charge by levels of 1A-2A-3A-4.5 A depending of the battery capacity.
4. Bulk charge - charge with constant current.
5. Absorption charge -charge with constant voltage.
6. Maintenance charge. When the battery is fully charged the charger will maintain the condition of your battery automatically.

5. WHEN CHARGING IS COMPLETE

Switch off the mains supply, unplug the charger and disconnect the clips from the battery, negative (BLACK lead) first.

NOTE : the ring terminal charging lead can be permanently attached to a vehicle battery. The lead end-cap must be fitted to prevent short circuit or dirt / water entry.

For non-sealed lead-acid batteries: Inspect the liquid levels in each cell and top up if necessary, using the correct fluid. Now push home or tighten the caps. Any surplus fluid around the cell tops should be wiped off (this should be done with extreme care as it is acidic). If the battery has been removed for charging, replace it and re-connect the cables.

FAULTY CELLS – NON-SEALED LEAD-ACID BATTERIES

Batteries are usually made with six cells. One of these cells can deteriorate or get damaged. If after several hours charging your battery is still flat, you should test the battery. Take hydrometer readings from each cell in the battery. If one reading is lower than the others, this could indicate a faulty cell. The battery will require replacement if one or more cells are faulty.