



RetroSign GRX, battery

The instrument is powered by a Li-Ion battery, which under normal use requires no maintenance. The battery is a standard Bosch Li-Ion battery.

The battery is equipped with a thermal sensor that only allows charging within a range between 0°C and 45°C (32°F and 113°F). This ensures long battery life.

A substantial drop in obtainable measurements on a fully charged battery indicates that the battery is worn out and must be replaced.

For your safety

Do not expose the battery to heat or flames: **Danger of explosion.** Do not place the battery on a heater or expose to direct sunlight for long periods.

The battery can be stored within a temperature range between -10°C to +60°C (14°F to 140°F), but we recommend storage between 0°C to +30°C (32°F to 86°F), due to lifetime considerations of the battery.

Allow a warm battery to cool before charging.

When handling or storing the battery take special care to avoid possible short circuiting the battery



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Do not insert the battery in the charger if the battery is cracked. Using a damaged battery may result in electric shock or fire.

See further details in the battery user guide.

Safety precautions:

- The battery should be protected against impact. Do not open the battery.
- Store the battery in a dry and clean place.
- Due to environmental protection do not dispose the battery with household waste.

Battery charger

A battery charger is provided as a standard accessory for charging the battery from the mains. The battery charger comes in two models:

- Bosch AL1130CV, 230V AC, 50/60 Hz
- Bosch BC330 Fast Charger, 120V AC, 60 Hz

The battery will be fully charged in approx. 45 minutes.

Due to the intelligent charging method, the charging condition of the battery is automatically detected and the battery is charged with the optimum charging current, depending on battery temperature and voltage.

To recharge the battery, first make sure that the RetroSign GRX is turned off, remove the battery from the handle and insert it in the charger. Make sure the battery and battery charger is clean and dry before and during charging takes place.

The battery charger will during charging give the following information:

Charger AL1130CV

- If the **green** indicator light is 'on', the charger is plugged in but the battery is not inserted, or the battery is fully charged and is being trickle charged.
- If the **green** indicator light is 'flashing', the battery is being fast-charged. Fast-charging will automatically stop when the battery is fully charged.
Note: The rapid-charging procedure is only possible when the battery temperature is within the allowable charging temperature range (see below).
- If the **red** indicator light is 'flashing', the battery cannot accept a charge. The battery may be defect or the contacts of the charger or battery are contaminated. Clean the contacts of the charger or battery and check. Change the battery if no solution can be found.
- If the **red** indicator light is 'on', the temperature of the battery is not within the allowable charging temperature range. As soon as the allowable charging temperature range is reached, the battery charger automatically switches to rapid charging.

Charger BC330

- If the **green** indicator light is 'off', the charger is not receiving power from power supply outlet.
- If the **green** indicator light is 'on', the charger is plugged in but the battery is not inserted, or the battery is fully charged, or the battery is too hot or cold for fast-charging. The charger will automatically switch to fast-charging once a suitable temperature is reached.
- If the **green** indicator light is 'flashing', the battery is being fast-charged. Fast-charging will automatically stop when the battery is fully charged.

For your safety

Read all instructions. Failure to follow all instructions listed below may result in electrical shock, fire and/or serious injury.

- The battery and the charger are specifically designed for use in conjunction with one another. Charging should be done only with the charger delivered with the instrument.
- Protect the battery from rain and moisture. The penetration of water in a battery charger increases the risk of electric shock.
- Do not insert battery pack in charger if battery is cracked. Using damaged battery may result in electric shock or fire.
- Do not disassemble charger or operate the charger if it has received a sharp blow, been dropped or otherwise damaged in anyway. Incorrect reassembly or damage may result in electric shock or fire.
- Keep the battery charger clean. Contamination may cause the danger of electric shock.
- Check the battery charger, cable and plug each time before using. Do not use the battery charger when defects are detected. Do not open the battery charger yourself and have it

repaired only by qualified personnel using original spare parts. Damaged battery chargers, cables and plugs increase the risk of electric shock.

- Do not operate the battery charger on easily inflammable surfaces (e.g. paper, textiles, etc.) or combustible environments. There is danger of fire due to the heating of the battery charger during charging.
- Do not store battery in charger. Storing the battery in the charger over a long period of time could lead to battery damage and fire.
- See further details in the charger user guide.

Practical advice

With continuous or repetitive charging cycles without interruption, the charger can warm up. This is of no consideration and does not indicate a technical defect of the unit.

A substantial drop in obtainable measurements on a fully charged battery indicates that the battery is worn out and must be renewed.

For your safety:

Do not expose the battery to heat or flames: **Danger of explosion.** Do not place the battery on a heater or expose to direct sunlight for long periods.

The battery can be stored within a temperature range between -10°C to +60°C (14°F to 140°F), but we recommend storage between 0°C to +30°C (32°F to 86°F), due to lifetime considerations of the battery.

Allow a warm battery to cool before charging. When handling or storing the battery take special care to avoid possible short circuiting the battery contacts.

See further details in the battery user guide.

Safety precaution:

- The battery should be protected against impact. Do not open the battery.
- Store the battery in a dry and clean place.
- Due to environmental protection do not dispose the battery with household waste.



Battery charger

Keep the battery charger clean by blowing compressed air on charger vents and wiping the charger housing with a damp cloth. Contamination may result in electric shock or fire. Make sure the battery charger is unplugged before cleaning it.